3353-3359 Lake Shore Blvd. West
Traffic Impact Study

City of Toronto

November 12, 2019

Prepared for:

Lakeshore Blvd. GP Inc.

Prepared by:

Stantec Consulting Ltd.

Revision	Description	Author		Quality Check		Independent Review	
0A	Draft	B Channa Reddy	11-04-19	Jason Zhou	11-08-19		

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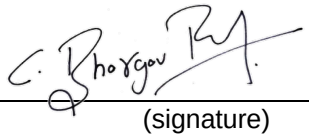
Prepared by 
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1.0 INTRODUCTION

1.1 SCOPE AND METHODOLOGY

This Study assesses the transportation impact of a proposed mixed-use residential development in the City of Toronto. The proposed development is located at the municipal address of 3353-3359 Lake Shore Boulevard West about 770m west of Kipling Avenue, within the established neighborhood of Long Branch, Etobicoke, as shown in **Figure 1.** Existing buildings will be demolished on the site, where a six-storey mixed-use building with a total gross floor area (GFA) of 5,378.0 square meters is proposed. The development will feature 60 dwelling units, ground-floor retail, underground parking spaces, and direct access onto the Lakeshore Boulevard West.

The scope of the study is as follows:

- The study area comprises the intersections of:
    - Site Access to Lake Shore Boulevard West;
    - Lake Shore Boulevard West / Thirtieth Street (signalized); and,
    - Lake Shore Boulevard West / Twenty Seventh Street (signalized);
- Weekday AM and PM peak hour traffic are forecasted for the years of 2021 and 2026, which represent the anticipated full build-out of the subject development, and five years following full build-out.
- Transportation impacts and requirements are assessed related to background traffic forecasts and total traffic forecasts including the proposed development.
- The site circulation and turning maneuvers at the site access are assessed for the proposed site plan to highlight any potential safety concerns.

The following methodology is used to analyze traffic operations and recommend transportation improvements:

- Future peak hour background traffic is estimated for future horizon years based upon a 1.0 percent per annum growth rate. The background traffic forecast also includes additional traffic generated by the full build-out of nearby developments (if any);
- Estimates of the expected net increase in future site traffic are generated for the proposed development using data from the Institute of Transportation Engineers (ITE) publication, “Trip Generation, 10th Edition”;
- The future background traffic is combined with the net increase in subject site traffic to determine the total traffic volumes for future horizon years;
- The future peak-hour intersection operations are analyzed for the future background and future total traffic conditions; and
- All the above data is used to determine the net impact on operational performance as a result of the subject site traffic, and to provide recommendations for road and/or traffic control improvements (if any) to address the identified impacts.

Figure 1 Study Area

1.2 SITE/DEVELOPMENT DESCRIPTION

The proposed development consists a six-storey mixed-use building with a total GFA of 5,378.0 square meters. The development will feature 60 dwelling units, ground-floor retail, underground parking spaces, and direct access onto the Lakeshore Boulevard West. 30 car parking spaces and 52 bike parking spaces will be provided. Table 1 summarizes the proposed site statistics. A detailed Site Plan is attached in **Appendix A** for reference. The subject development is anticipated to be fully built out by the end 2021. Vehicles can access the development site through the proposed driveway onto Lake Shore Boulevard West.

Table 1 Site Statistics

	Land Use			Residential					
		GFA	Retail Units	1BDR	1BDR +Den	2BDR	2BDR +Den	3BDR	units
UG1	Utility	192.1	0	0	0	0	0	0	0
1st Floor	Utility and Retail*	620.7	2	0	0	0	0	0	0
Mezzanine	-	80.6	0	0	0	0	0	0	0
2nd Floor	Residential	1069.1	0	9	8	0	0	0	17
3rd Floor	Residential	1069.1	0	9	8	0	0	0	17
4th Floor	Residential	914.3	0	2	5	3	2	0	12
5th Floor	Residential	773.4	0	1	0	4	0	3	8
6th Floor	Residential	658.7	0	1	0	1	1	3	6
Total		5378	2	22	21	8	3	6	60
	*Retail use will only occupy a total gross floor area of 304.0 m^2.								

The proposed site plan is shown in **Figure 2**.

Introduction
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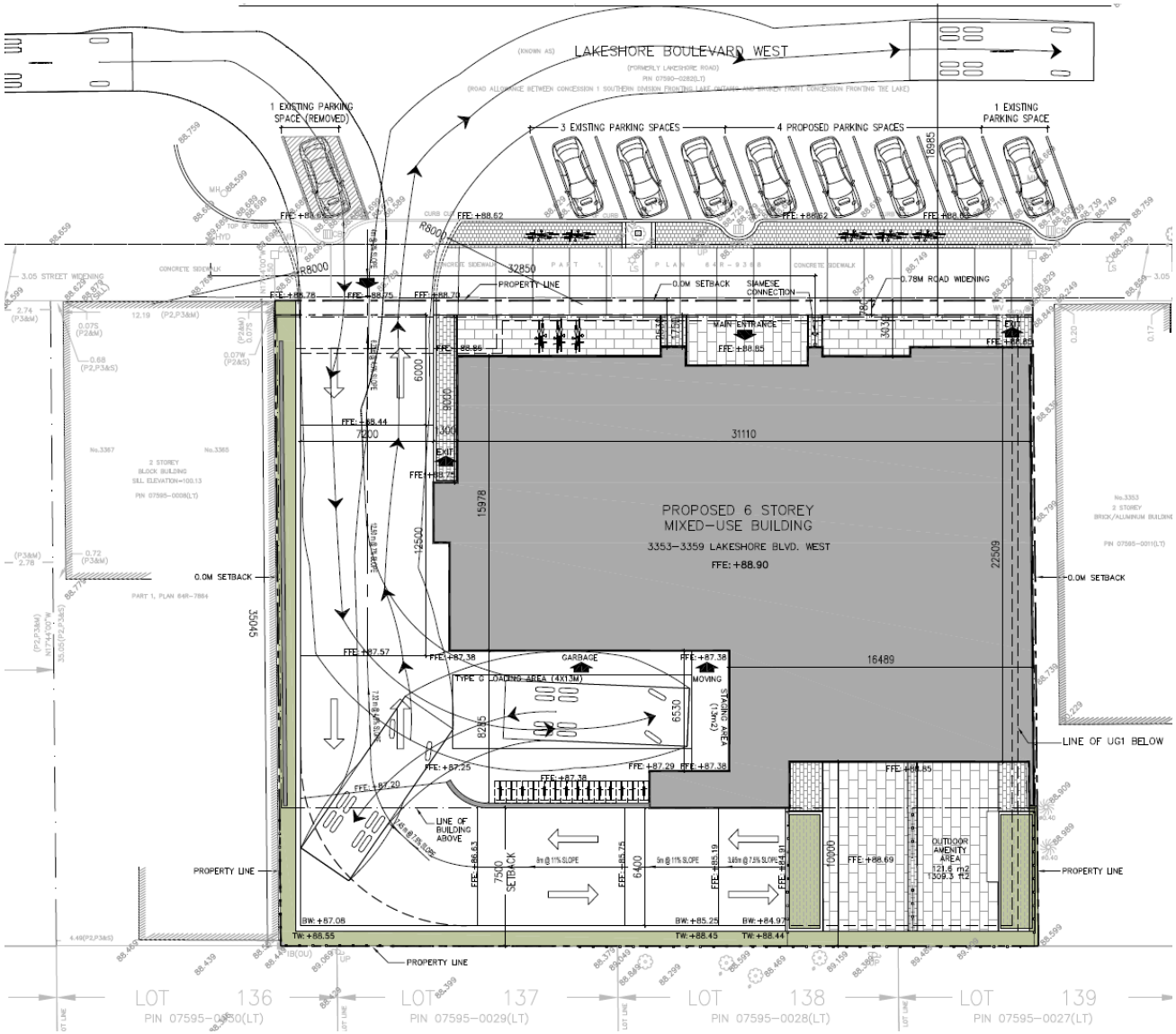

Figure 2 Site Plan

2.0 EXISTING CONDITIONS

2.1 ROADS AND TRAFFIC CONTROL

The characteristics of the roads and intersections within the Study Area limits are described below. **Figure 3** illustrates the existing road conditions and lane configurations.

Lake Shore Boulevard West is a major arterial road under the jurisdiction of the City of Toronto extending from the Western city limit through the neighbourhoods of Long Branch, New Toronto, and Mimico. Lake Shore Boulevard West consists of four lanes: two-lane per direction. The two centre lanes (one in each direction) are also utilized by streetcars routes 301, 501 and 508. Pedestrian refuge islands are provided at streetcar stops. Angled layby parking spaces are provided along both sides of the road with a maximum one-hour limit from 8 AM to 5 PM. Bike lanes are also provided along both sides. The posted speed limit within the study area is 50km/hr.

Thirtieth Street is a two-lane (one in each direction) collector road under the jurisdiction of the City of Toronto and runs in the North-South direction. The roadway runs from Lake Shore Boulevard West in the south to Lanor Avenue in the north. The roadway is restricted for truck access overnight between 7 PM to 7 AM. Due to the absence of a posted speed limit, the statutory speed limit of 50km/hr is assumed for analysis.

Twenty Seventh Street is a two-lane (one in each direction) Local road under the jurisdiction of the city of Toronto and runs in the North-South direction. The roadway begins North at Lake Shore Boulevard West and ends South at Lake Promenade. The roadway mostly serves residential uses. Due to the absence of a posted speed limit the statutory speed limit of 50km/hr is assumed for analysis.

Existing Conditions
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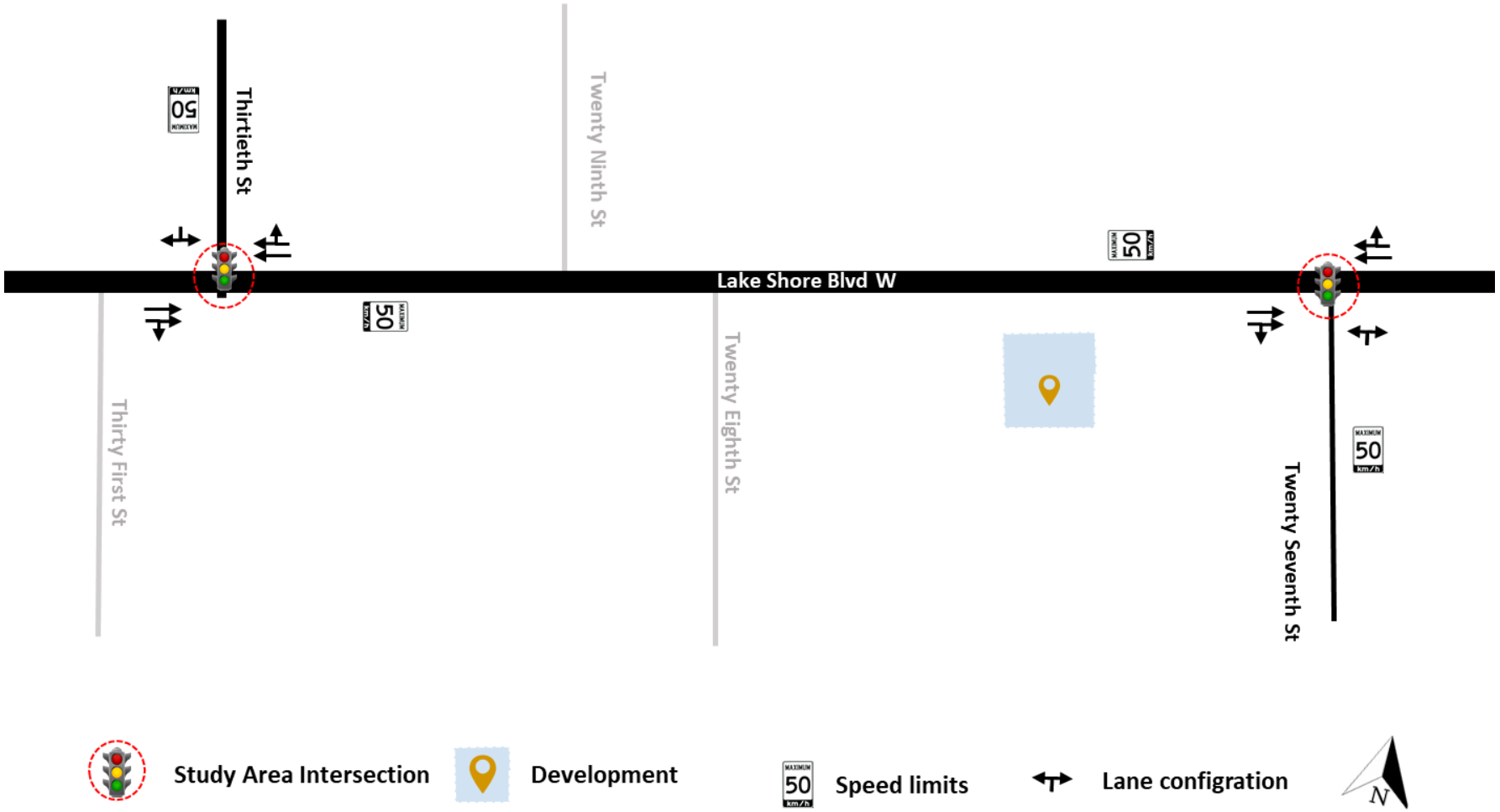


Figure 3 Existing Road Network

2.2 LAND USE

The location of the proposed development is designated as “Mixed-use” within Toronto’s official plan (Map 15 February 2019). The proposed site is also subject to ‘Site and area-specific policies that vary from the provision of the official plan and add a further layer of local policy direction. The area-specific policies for ‘Lake Shore Boulevard Between Etobicoke Creek and Dwight Avenue’ are as follows

a) Buildings should be built to the Lake Shore Boulevard West street line with a discretionary setback zone of 1.5 metres. Development blocks should provide a continuous building face for at least 70 percent of the frontage on Lake Shore Boulevard West. Building heights should not exceed four storeys, except:

   i) between Twenty-Second Street and Twenty Third Street, where a six storey building is permitted if the extra height is stepped back from the street; and

   ii) for the area between Twenty Third Street and 3829 Lake Shore Boulevard West (one block west of Fortieth Street), where a sixstorey building is permitted; however, in areas where lot depths exceed 35 metres, higher building height may be considered.

b) Building height should not exceed a 45-degree angular plane from the property line of the adjacent low-scale residential properties.

c) Maximum net density of mixed commercial-residential buildings with commercial uses on the ground floor is 3.0 times the lot area for the lands designated Mixed Use Areas.

The Zoning maps are provided for reference in **Appendix B**

2.3 TRANSIT

The Site is served by Toronto Transit Commission (TTC), Connecting transit riders to locations in the City and to Long Branch Go Station. Long Branch Go Station is located approximately 1.5 kilometers west of the site. The TTC operates the following streetcars and bus routes within the study area:

Route 501, Long Branch, operates seven days a week between Neville Park Loop and Long Branch Loop. The streetcar route runs along Queen Street and Lake Shore Boulevard West and connects riders to major stops including Queen and Osgoode Subway stations and Long Branch GO station. The 501 route is part of the Ten-Minute Network and provides 10 minutes or better service from 6 AM to 1 AM Monday to Saturday and 8 AM to 1 AM on Sundays.

Route 508, Lake Shore is a limited-run rush hour service that serves Lake Shore Boulevard, the Queensway and King street through Downtown Toronto. The streetcar route provides a connection to St. Andrew and King Subway Stations and Long Branch Go Station.

Route 110B Islington South is a rush hour alternative branch service operating from Monday to Friday. The branch route operates bus route operates between Islington Station on Line 2 Bloor-Danforth, the area of Islington Avenue and Lake Shore Boulevard West, and Long Branch Loop, generally in a north-south direction.

Route 301, Long Branch, operates seven days a week during the night time only, in the east-west direction along Queen Street and Lake Shore Boulevard West. The streetcar route connects riders to stops along Queen Street, West of Queenway and Lake Shore Boulevard West. The route terminates at Long Branch Go Station.

The route maps for the transit routes are included in **Appendix C** for reference.

2.4 ACTIVE TRANSPORTATION

The proposed site have access to a good network of cycling and pedestrian facilities. **Figure 4** displays the existing cycling facilities within and adjacent to the study area. There is well-connected cycling infrastructures in the vicinity. The east-west cycling roadways include the bike lanes on Lake Shore Blvd. West, Birmingham St, and the Martin Good Man trail, which provide a connection to the downtown Toronto. Thirtieth Street, Thirty First Street, and Thirty Seventh Street are designated as signed routes and provide North-South connection. The site is also surrounded by a dense network of sidewalks on both sides of the roadways.

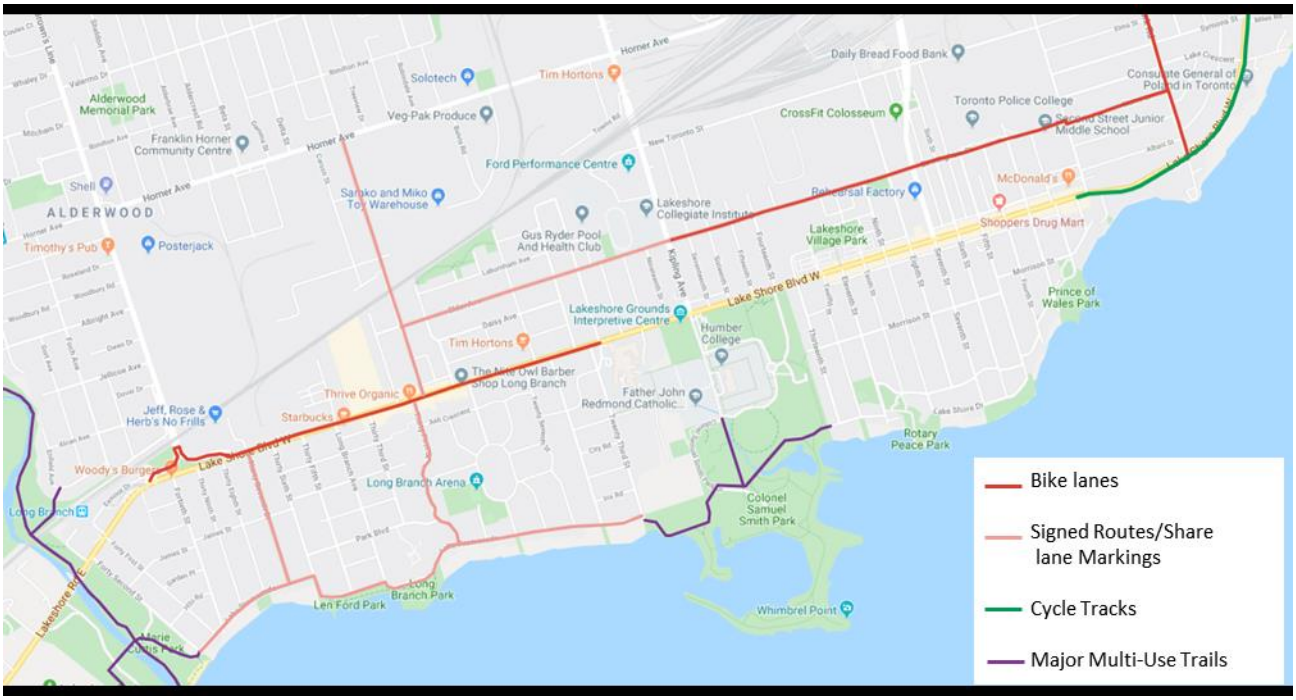


Figure 4 Existing Cycling Network

2.5 TRAFFIC VOLUMES

Stantec conducted intersection turning movement counts (TMCs) at the intersections of Lake Shore Boulevard West with Thirtieth Street and Twenty Seventh Street. Eight-hour weekday turning movement counts were conducted on Thursday, October 17, 2019. Motor vehicle traffic including pedestrian crossings was counted in 15-minute intervals. The existing base year 2019 traffic volumes for the AM and PM peak hours are illustrated in **Figure 5** and **Figure 6**. Traffic data is attached for reference in **Appendix D**.

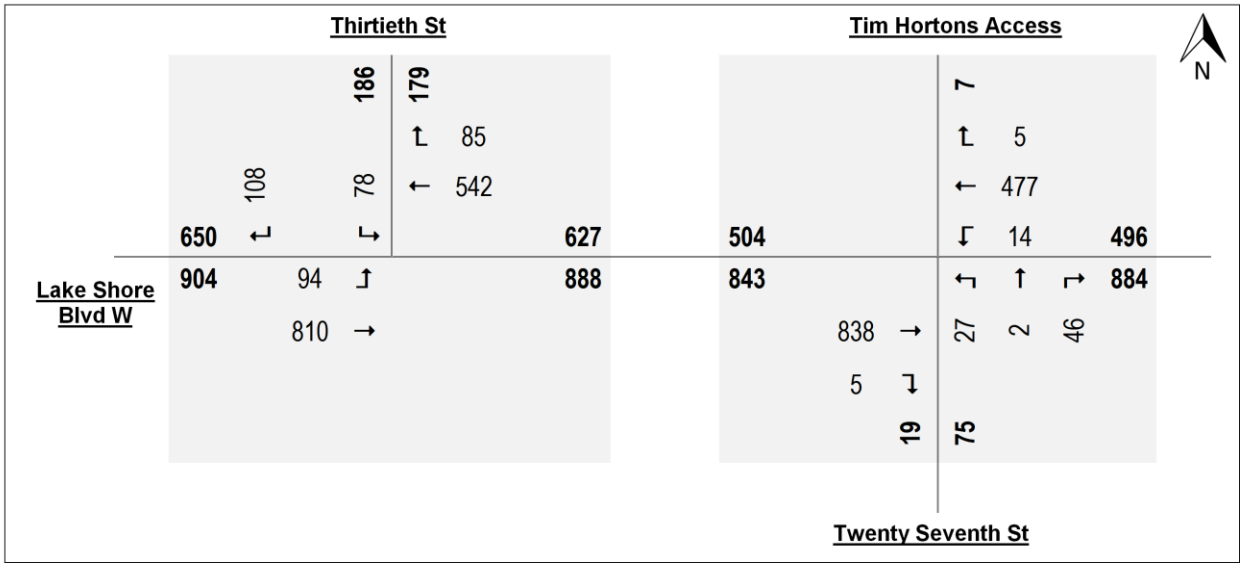


Figure 5 Base Year 2019 Traffic Volumes AM Peak Hour

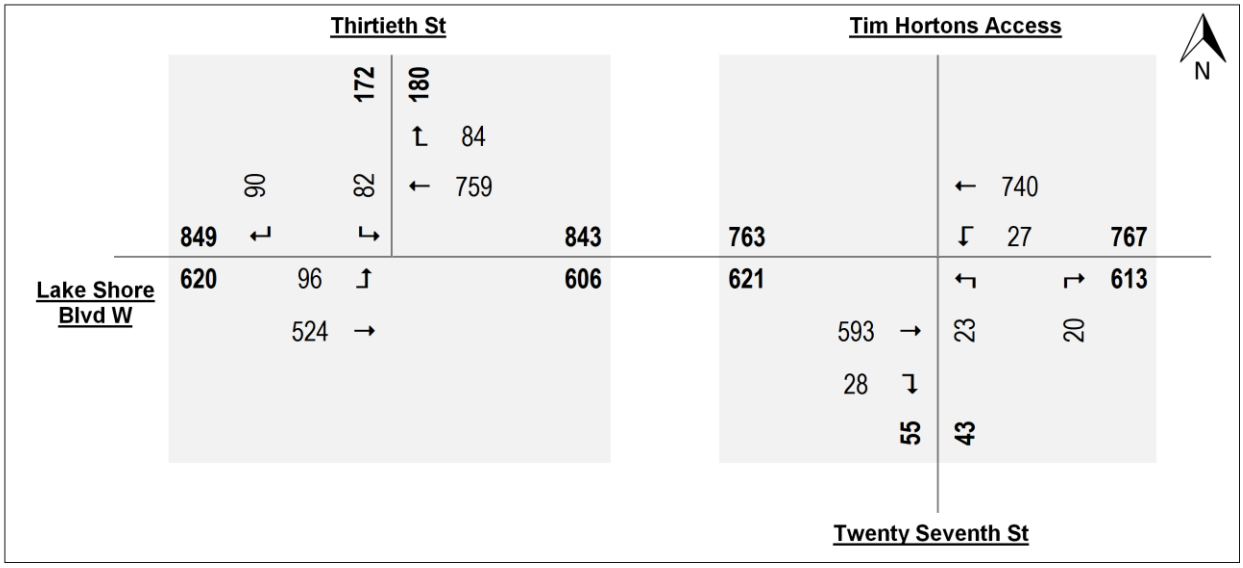


Figure 6 Base Year 2019 Traffic Volumes AM Peak Hour

2.6 BASE YEAR (2019) TRAFFIC OPERATIONS

The quality of intersection operations at signalized and unsignalized intersections is evaluated in terms of level of service (LOS) and volume to capacity (v/c) as defined by the Highway Capacity Manual (HCM). LOS is evaluated on the basis of average control delay per vehicle and includes deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Capacity is evaluated in terms of ratio of demand flow to capacity with an at-capacity condition represented by a v/c ratio of 1.00 (i.e. volume demand equals capacity). For signalized intersections, LOS ranges from LOS A for 10 seconds or less average delay to LOS F for average delay greater than 80 seconds. For unsignalized intersections, the LOS ranges from LOS A for 10 seconds or less average delay to LOS F for average delay greater than 50 seconds. (See T-)

Table 2 Intersection Level of Service Delay Criteria

Level of Service (LOS)	Signalized Intersections	Unsignalized Intersections
A	≤10s	≤10s
B	>10s and ≤20s	>10s and ≤15s
C	>20s and ≤35s	>15s and ≤25s
D	>35s and ≤55s	>25s and ≤35s
E	>35s and ≤80s	>35s and ≤50s
F	>80s	>50s

To assess the existing peak hour traffic conditions, a level of service analysis is undertaken for the Study Area intersections using TrafficWare Synchro 10 Software, which implements the methodology of the Highway Capacity Manual. The key parameters used in the analysis include:

- Existing lane configurations;
- Heavy vehicle percentages as derived from collected traffic count data;
- Calculated peak hour factors (PHFs) for the Study Area intersections. It is noted that this factor adjusts the hourly volumes to better represent conditions during the peak 15 minutes of intersection operations; and
- Signal timing plans obtained from the City of Toronto
- Synchro default values for all other inputs.

The results of the analysis for existing conditions are summarized in **Table 3**, and the Synchro analysis outputs are provided for reference in **Appendix F**.

Table 3 Existing Traffic | Peak Hour Traffic Operation Analysis

Intersection	Approach/ Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay(s)	v/c	Q*	LOS	Delay(s)	v/c	Q*
Lake Shore Blvd/ Thirtieth St *signalized*	EBTR	A	5	0.48	61	A	6	0.40	44
	WBTR	A	4	0.27	28	A	3	0.38	10
	SBLR	C	32	0.53	30	C	34	0.50	32
	Intersection	***A***	**8**	**0.52**	**-**	***A***	**7**	**0.42**	**-**
Lake Shore Blvd/ Twenty Seventh St *signalized*	EBTR	A	4	0.33	49	A	6	0.25	52
	WBTR	A	3	0.23	29	A	4	0.32	45
	SBLR	C	32	0.23	8	C	35	0.19	9
	Intersection	**A**	**6**	**0.31**	**-**	**A**	**6**	**0.31**	**-**

*Q indicates the 95th percentile queue length in metre.

As shown in the summary table above, the Study Area intersections are characterized by good levels of service and volume to capacity ratios. All levels of service are C or better, and the highest volume to capacity ratio in the network is 0.53. The 95th percentile queues do not obstruct any adjacent driveways or intersections.

3.0 FUTURE CONDITIONS

3.1 HORIZON YEARS AND BACKGROUND DEVELOPMENT TRAFFIC

The subject development's anticipated full build-out year is 2021, therefore the horizon years considered for analysis of all Study Area intersections are 2019 and 2021 and 2026, which represent existing, full build-out and five years following the full build-out of the subject development. Future background traffic volumes were determined based on a review of planned developments and future traffic volume growth in the study area. Planned roadway improvements are also reviewed in this section.

Growth Rate

Through analysis of historical intersection traffic volumes from the City of Toronto's open database, annual growth rates were calculated for Lake Shore Boulevard West. Traffic volumes for the Station 237 (Lake Shore Boulevard and Kipling Avenue) and Station 242 (Lake Shore Boulevard and Browns Line) were used from the years 2013 and 2016. The historic trend showed a negative growth rate. However, to be conservative, an annual growth rate of one percent for a five-year horizon was applied to Lake Shore Boulevard West and the side streets.

Table 4 Growth Rates

TCS #	Main	Side 1 Route	2013	2016	Annual Growth Rate
242	Lake Shore Blvd W	Kipling Ave	19371	16881	-4.48%
242	Lake Shore Blvd W	Browns Line	12239	12072	-0.46%

Planned Background Developments

Based on a review of the City of Toronto development applications, five proposed residential and commercial developments were identified in the vicinity. The proposed developments are listed in **Table 5.**

Table 5 Development Applications

Development	Type	Units
2970 Lakeshore Blvd W	mixed-use apartment building	95
68 Daisy Avenue	Residential Town houses	73
3600 Lake Shore Blvd W	Residential low-rise condominium	130
3246 Lake Shore Blvd W	Student Athletic Facility	-
62 Long Branch Ave	Stacked townhouses	28

A review of the Transportation impact studies of the above developments showed negligible trips passing through the subject study area. It is thus assumed that any trip from these developments would be captured in the conservative growth rate of 1% used to forecast the future volumes.

Planned Roadway and Transit Improvements

No planned roadway or transit improvements were identified in the study area within a five-year horizon timeframe.

Based on the review of background conditions and assumptions noted above, future background traffic volumes for the 2021 and 2026 horizon year during the weekday AM and PM peak hours are shown through **Figure 7** to **Figure 10.**

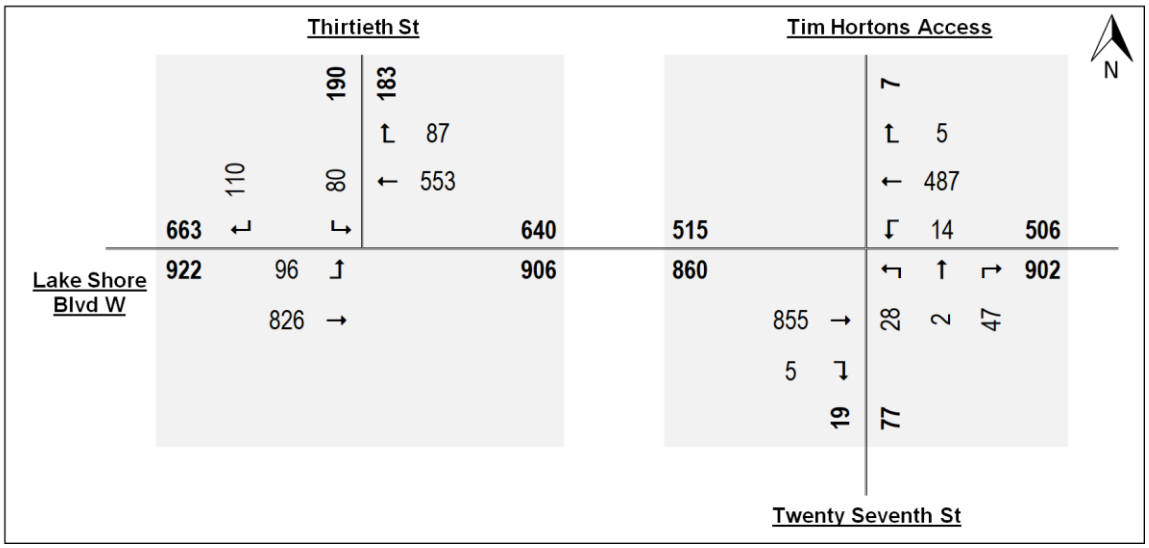


Figure 7 2021 Future Background Traffic Volumes AM Peak Hour

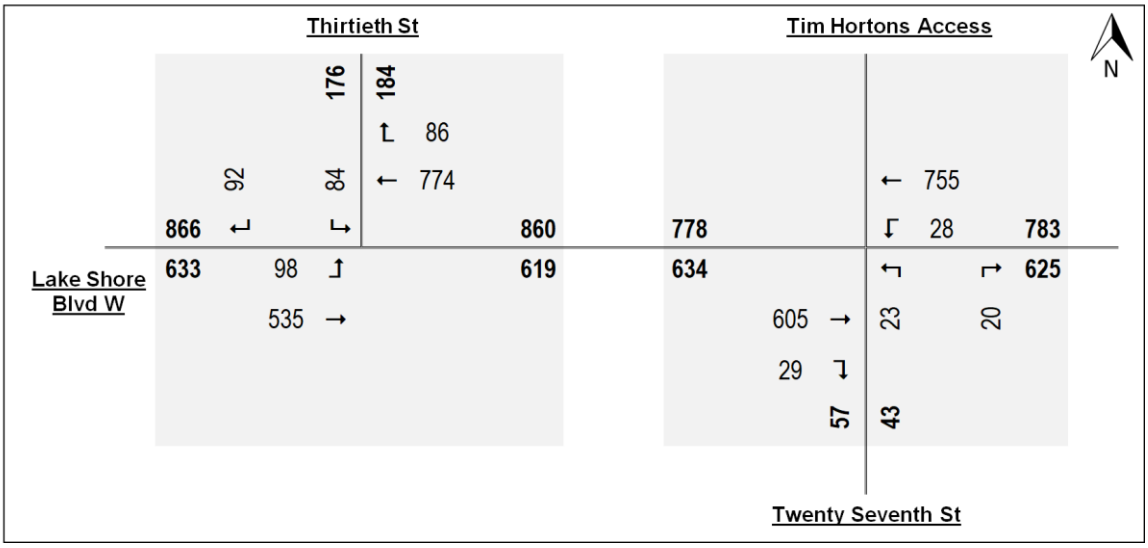


Figure 8 2021 Future Background Traffic Volumes PM Peak Hour

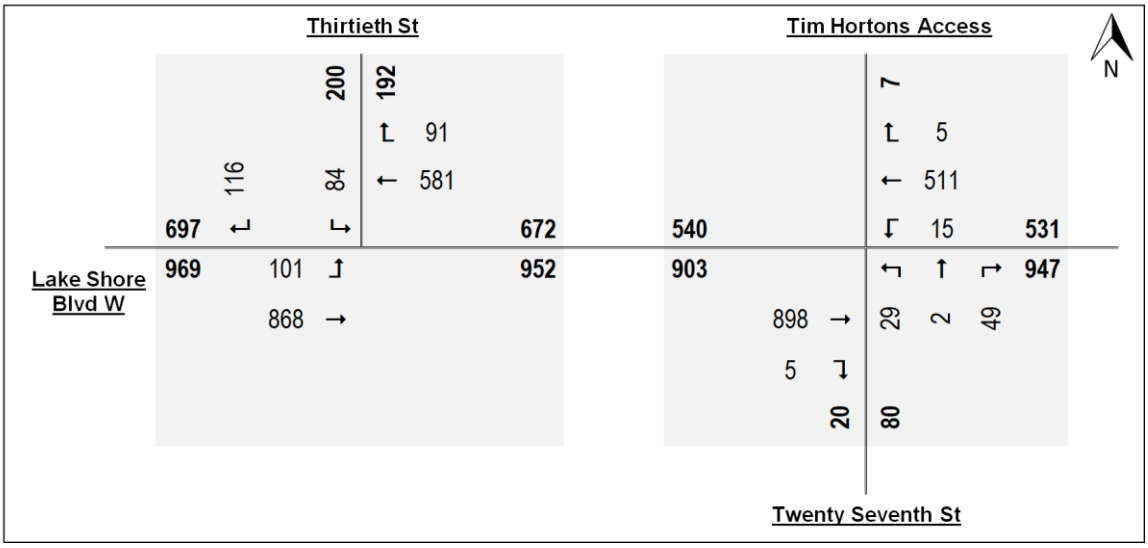


Figure 9 2026 Future Background Traffic Volumes AM Peak Hour

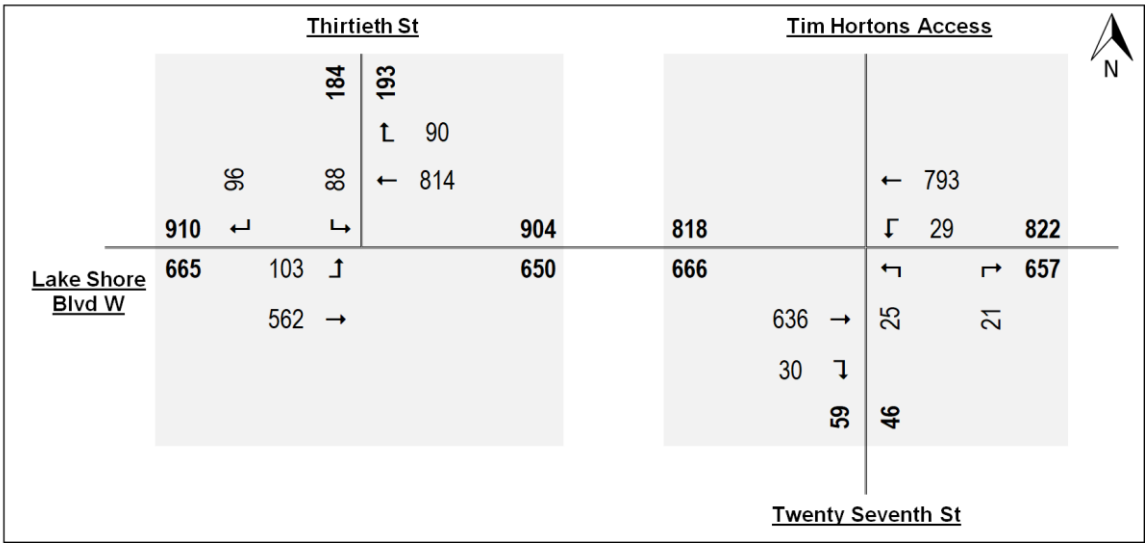


Figure 10 2026 Future Background Traffic Volumes PM Peak Hour

3.2 FUTURE BACKGROUND TRAFFIC OPERATIONS

Traffic operations analysis was undertaken to assess the operating conditions for the future weekday AM and PM peak hours. The same methodology, parameters, lane arrangements, Signal timing plans and traffic control devices used in the analysis of existing conditions are applied to the future background conditions. The results of the operational analysis for the 2021 and 2026 future background conditions are presented in

Table 6 and **Table 7,** respectively. The Synchro analysis output is provided for reference in **Appendix F**.

As shown in the summary below, the intersections under the future background conditions are characterized by good levels of service and volume to capacity ratios. The operations for future background largely reflect the operations observed under the existing traffic conditions. All movements are anticipated to operate within the thresholds outlined in the City of Toronto's TIS Guidelines for the Preparation of Traffic Impact Studies. All movements are anticipated to be level of service B or better, with the largest volume to capacity ratio being 0.58.

Table 6 2021 Future Background | Peak Hour Traffic Operation Analysis

Intersection	Approach/ Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay(s)	v/c	Q*	LOS	Delay(s)	v/c	Q*
Lake Shore Blvd/ Thirtieth St *signalized*	EBTR	A	5	0.49	63	A	6	0.41	46
	WBTR	A	4	0.28	29	A	3	0.39	10
	SBLR	C	32	0.55	31	C	34	0.52	33
	Intersection	***A***	***8***	***0.53***	***-***	***A***	***7***	***0.43***	***-***
Lake Shore Blvd/ Twenty Seventh St *signalized*	EBTR	A	4	0.33	51	A	6	0.25	54
	WBTR	A	3	0.24	29	A	4	0.33	46
	SBLR	C	32	0.23	8	C	35	0.19	9
	Intersection	***A***	***6***	***0.32***	***-***	***A***	***6***	***0.31***	***-***

*Q indicates the 95th percentile queue length in metre.

Table 7 2026 Future Background | Peak Hour Traffic Operation Analysis

`	Approach/ Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay(s)	v/c	Q*	LOS	Delay(s)	v/c	Q*
Lake Shore Blvd/ Thirtieth St *signalized*	EBTR	A	6	0.53	69	A	6	0.45	50
	WBTR	A	4	0.29	30	A	3	0.41	10
	SBLR	C	33	0.58	34	C	34	0.54	35
	Intersection	***A***	***9***	***0.57***	***-***	***A***	***8***	***0.47***	***-***
Lake Shore Blvd/ Twenty Seventh St *signalized*	EBTR	A	4	0.35	56	A	6	0.26	57
	WBTR	A	3	0.25	31	A	4	0.35	49
	SBLR	C	32	0.24	8	C	35	0.20	10
	Intersection	***A***	***6***	***0.33***	***-***	***A***	***6***	***0.33***	***-***

*Q indicates the 95th percentile queue length in metre.

3.3 SITE TRIPS

3.3.1 Generation

The number of vehicular trips that are generated by the proposed development is estimated based on the Institute of Transportation Engineers (ITE) publication, "Trip Generation, 10th Edition". Specifically, the weekday AM and PM peak hour trips are estimated using the trip generation rates for a "Multifamily Housing (Mid-Rise)" (ITE land-use code #221) for the 60 dwelling units and "variety Store (ITE land-use code #814)" for the retail space. The site generated trips are summarized below in **Table 8**.

Table 8 Site Trip Generation

Land Use Code	Land Use	Independent variable	Value	Equation	Trips	In	Out
				AM Peak Hour			
221	Multifamily Housing (Mid-Rise)	Dwelling Units	60	Ln(T) = 0.98 Ln(X) - 0.98	21	5	16
814	Variety Store (814)	1000 sq.ft. GFA	3.272	2.01	7	4	3
				PM Peak Hour			
221	Multifamily Housing (Mid-Rise)	Dwelling Units	60	Ln(T) = 0.96 Ln(X) - 0.63	27	16	11
814	Variety Store (814)	1000 sq.ft. GFA	3.272	3.19	10	5	5

The retail use only has an area of 304.0 m^2 (3,272 sq.ft) and generates a maximum of 10 trips (Inbound and Outbound combined), and it is also planned to serve the local residences. Therefore, the limited number of trips it generates are treated as internal and active trips from surrounding residences rather than be assigned on the road network as vehicle trips.

3.3.2 Distribution and Assignment

The estimated trip generation is calculated based on patterns observed in the existing traffic volumes. Total traffic entering and exiting the Study Area in the AM and PM Peak hours was used to determine the existing distribution. Ingress/egress for driveways and business accesses are not included in the calculation of the Study Area distribution. The trip distribution patterns have been summarized below in **Table 9**.

Table 9 Trip Distribution

		Inbound		Outbound	
To/From	Road	AM	PM	AM	PM
West	Lake Shore Blvd. W.	54%	39%	38%	50%
North	Thirtieth St	11%	11%	10%	11%
East	Lake Shore Blvd. W.	30%	48%	51%	36%
South	Twenty Seventh St	5%	3%	1%	3%

The site traffic are illustrated through **Figure 11** to **Figure 13** for the AM and PM peak hours, respectively

The weekday AM and PM peak hours total traffic forecasts are the combination of the background and site traffic forecasts. The future total traffic forecasts are illustrated through **Figure 14** to **Figure 16**.

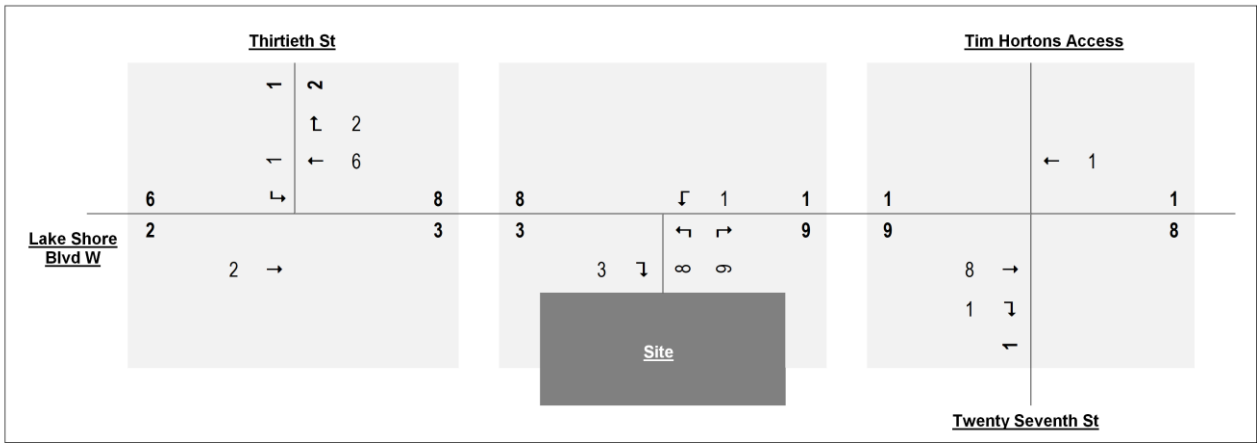


Figure 11 Site Traffic Volumes AM Peak Hour

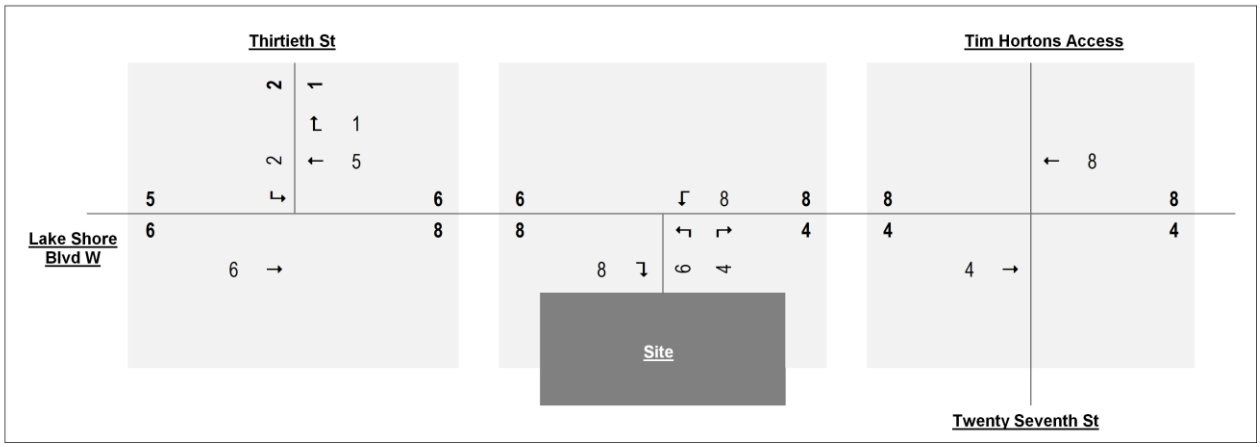


Figure 12 Site Traffic Volumes PM Peak Hour

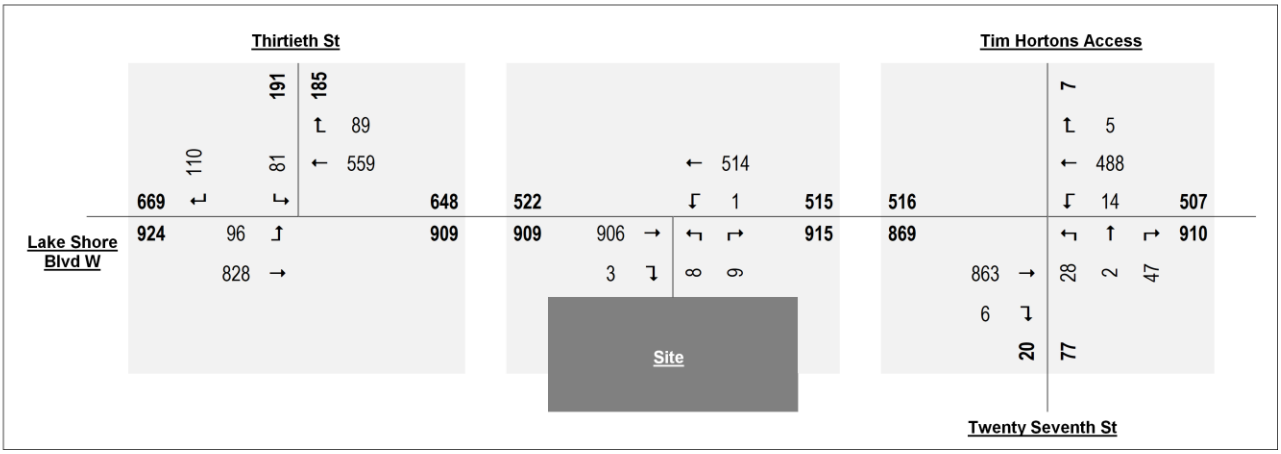


Figure 13 2021 Future Total Traffic Volumes AM Peak Hour

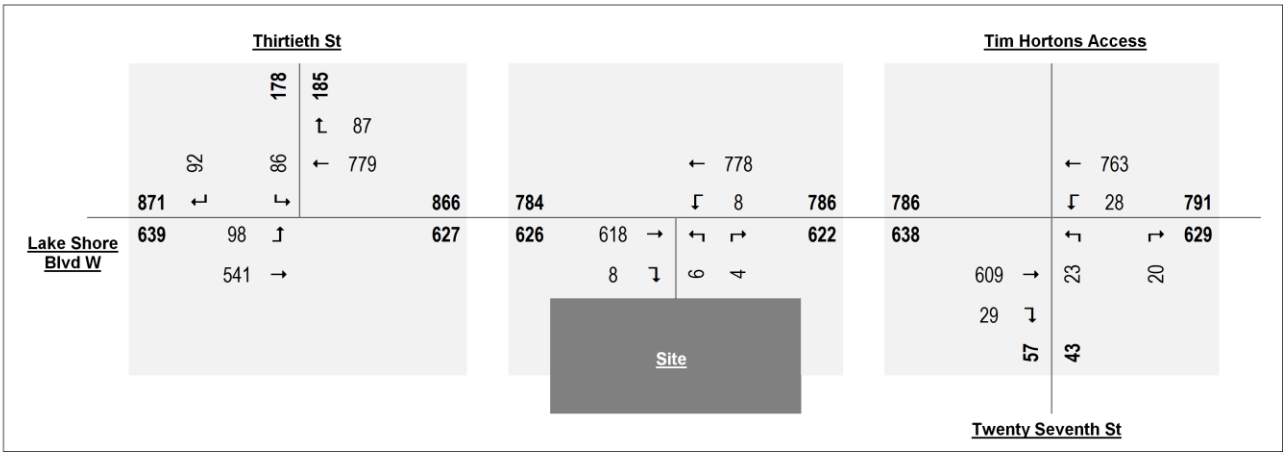


Figure 14 2021 Future Total Traffic Volumes PM Peak Hour

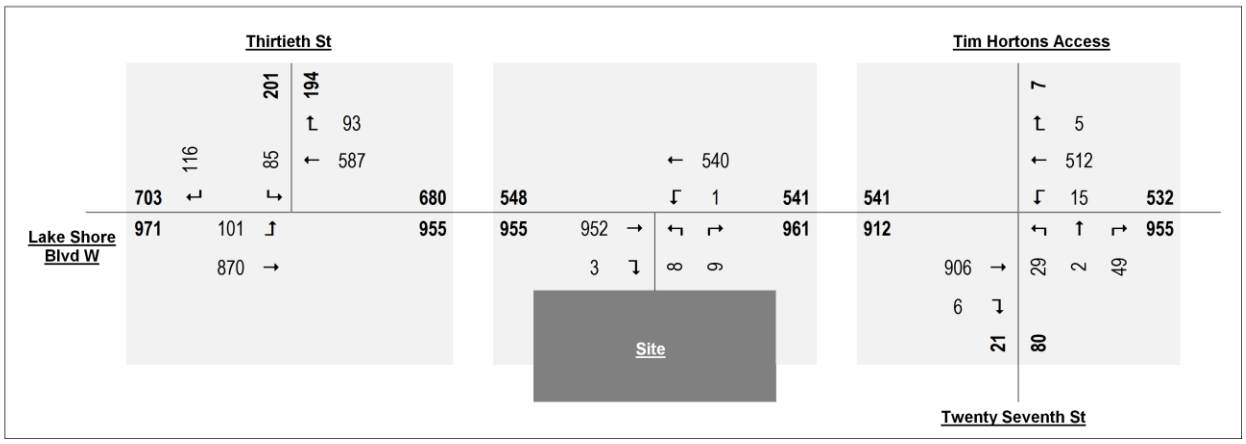


Figure 15 2026 Future Total Traffic Volumes AM Peak Hour

Figure 16 2026 Future Total Traffic Volumes PM Peak Hour

3.4 FUTURE TOTAL TRAFFIC OPERATIONS

Total traffic forecasts are analyzed using the same methodology, parameters, lane arrangements, and Signal timing plans used in the analysis of future background traffic conditions. The results of the operational analysis for the 2021 and 2026 future total conditions are presented in **Table 8** and **Table 11**, respectively. The Synchro analysis output is provided for reference in **Appendix F**.

The future total traffic horizons (2021 and 2026) largely reflect similar operational conditions as observed under the future background traffic conditions, however, slightly exacerbated by the additional site trips. Overall, all movements within the Study Area network operate with good levels of service of C or better and within the available capacity.

Table 10 2021 Future Total | Peak Hour Traffic Operation Analysis

Intersection	Approach/ Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay(s)	v/c	Q*	LOS	Delay(s)	v/c	Q*
Lake Shore Blvd/ Thirtieth St *signalized*	EBTR	A	5	0.50	63	A	6	0.42	46
	WBTR	A	4	0.28	29	A	3	0.40	10
	SBLR	C	32	0.55	32	C	34	0.52	34
	Intersection	***A***	***8***	***0.54***	***-***	***A***	***8***	***0.44***	***-***
Lake Shore Blvd/ Twenty Seventh St *signalized*	EBTR	A	4	0.34	51	A	6	0.25	54
	WBTR	A	3	0.24	29	A	4	0.33	47
	SBLR	C	32	0.23	8	C	35	0.19	9
	Intersection	***A***	***6***	***0.32***	***-***	***A***	***6***	***0.31***	***-***
Lake Shore Blvd/ Site access *Unsignalized*	*WBL*	A	0	0.00	0	A	0	0.01	0
	NBL	C	17	0.06	2	C	18	0.04	1

*Q indicates the 95th percentile queue length in metre.

Table 11 2026 Future Total | Peak Hour Traffic Operation Analysis

Intersection	Approach/ Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay(s)	v/c	Q*	LOS	Delay(s)	v/c	Q*
Lake Shore Blvd/ Thirtieth St *signalized*	EBTR	A	6	0.53	69	A	6	0.46	51
	WBTR	A	4	0.60	31	A	4	0.42	11
	SBLR	C	33	0.58	34	C	35	0.55	36
	Intersection	***A***	***9***	***0.57***	***-***	***A***	***8***	***0.47***	***-***
Lake Shore Blvd/ Twenty Seventh St *signalized*	EBTR	A	4	0.36	57	A	6	0.27	57
	WBTR	A	3	0.25	31	A	4	0.35	50
	SBLR	C	32	0.24	8	C	35	0.20	10
	Intersection	***A***	***6***	***0.34***	***-***	***A***	***6***	***0.33***	***-***
Lake Shore Blvd/ Site access *Unsignalized*	*WBL*	A	0	0.00	0	A	0	0.01	0
	NBL	C	18	0.06	2	C	19	0.04	1

*Q indicates the 95th percentile queue length in metre.

3.5 SITE CIRCULATION ANALYSIS

A site circulation analysis is conducted for the proposed site plan to confirm whether the proposed layout of the site can accommodate loading-trucks, front-loading garbage trucks, and passenger car maneuvers.

The swept path analysis was conducted using the AutoTURN software, with the design vehicles of Medium Single Unit Truck (TAC 2017), Wayne Titan (front-loading garbage truck) and a regular passenger car.

No issues were identified in the swept path analysis. Swept path reports are included for reference in **Appendix G**.

3.6 PARKING REVIEW

This section reviews the proposed parking supply for the proposed redevelopment and compares it to the parking requirements specified in the City of Toronto Zoning By-law. This includes a review of both the proposed vehicular and bicycle parking supply.

Based on the City of Toronto Zoning By-Law Policy Areas, the site location falls under the "Rest of the City" category. However, Policy Area 4 is typically used for adjacent sites along the Lake Shore Blvd corridor, given the frequent transit service and active transportation facilities along the corridor. Therefore, we propose to use Policy Area 4 requirement for our site to be consistent. **Table 12** summarizes the required number of vehicle parking. For the bike parking requirement, "Zone 2" requirement is applied per the City's Bicycle Zones. **Table 13** summarizes the required number of bike parking spaces.

Table 12 Vehicle Parking Space Requirements

Land Use	Number of units or GFA (m^2)	"Policy Area 4" - Car Parking Requirement	
		Ratio	Required Spaces
2B Units	8	0.9	7
2B + Den	3	0.9	2
1B Units	22	0.8	17
1B+ Den	21	0.9	18
3BDR	6	1.1	6
Retail	304.0	1.5/100m^2	4
Visitor	60	0.15	9
Total			**63**

Table 13 Bike Parking Space Requirements

Land Use	Dwelling Units or Interior Floor Area	Ratio	Required Spaces
Residential*	60	0.75	45
Retail (Short-term parking spaces)	275.8 m2	3+0.25/100m2	4
Retail (Long-term parking spaces)	275.8 m2	0.13/100m2	1
Total			**50**

*Per the by-law, Long-term and short-term bike parking spaces are combined in the calculation for the 60 dwelling units;
** If the calculation of the minimum bicycle parking spaces for all uses results in a fraction of a bicycle parking space being required, the number of required bicycle parking spaces must be rounded up to the next whole number.

Per the by-law requirement, the proposed development needs a minimum of 62 parking spaces for residents and visitors. The proposed parking spaces on-site are 30 for residents and visitors parking spaces combined. And, 52 bicycle parking spaces are provided in the underground garage, which meets the City's requirement. For the parking supply on site, please refer to the concept plan in **Appendix A.**

To gauge the sufficiency of the vehicle parking spaces, car ownership in the vicinity of the study area was investigated. The 2016 transportation tomorrow survey (TTS) data were used to investigate the car ownership. **Table 14** summarizes the households by car ownership in Zones 291,293 and 294 in which our site is located, as illustrated in **Figure 17**. The average car ownership per household in the vicinity of the development is 0.67, with which 40 parking spaces should be sufficient for the subject development.

Table 14 TTS Car ownership data

Zone	Number of Households (Apartments) with correspondent car ownership				Average per household
	0 Cars	1 Car	2 Cars	3 Cras	
291	739	738	66	0	0.56
293	238	143	0	0	0.38
294	333	941	106	14	0.86
Combined	1310	1822	172	14	0.67

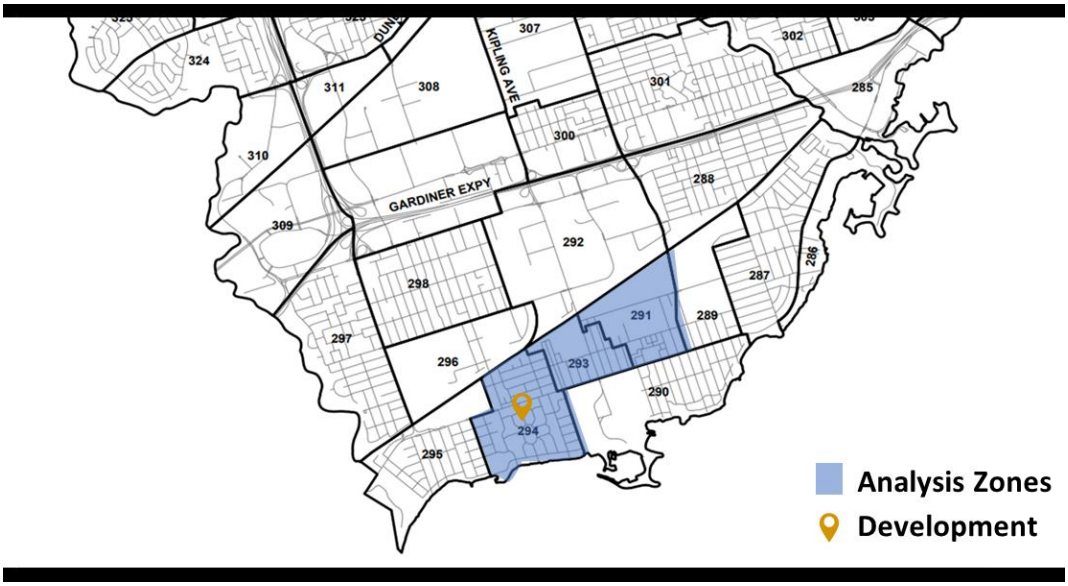


Figure 17 TTS Zone Map

The proposed parking supply is thus considered appropriate in this context based on the following considerations:

- The average car own ship per housed in the vicinity of the proposed development is 0.67 indicating a lower demand for parking spaces.
- The site is located on Lake Shore Boulevard West, which is well served by existing surface transit. Four surface transit routes provide convenient and frequent transit service and connect to higher-order transit services in the vicinity of the proposed development.
- The site's transit accessibility will improve the planned all-day, two-way service on the Lake Shore West GO Transit rail corridor, which is planned to be electrified within ten years. The existing Long Branch GO Transit station is located approximately 1.5 kilometers from the proposed development site.
- The site is located in a walkable and mixed-use area that allows for a higher proportion of transit, walking or cycling modes of travel.
- Currently, there are two driveways connected to the existing site. The proposed site plan will remove one of the driveways, where 3 or 4 on-street parking spaces can be added.
- There will be sufficient bike parking spaces provided on site, which encourages the residents to switch to this active transportation mode.

3.7 LOADING REVIEW

The subject site is required to provide loading spaces in accordance with the City of Toronto Zoning By-Law 569-2013. Per the City's by-law, one (1) Type G loading space is required, which will be provided on the ground floor per the site plan. Residential garbage collection and other general loading activities related to the proposed development can be accommodated by this Type G loading space located within the site.

The functionality of the loading space, turning path diagrams have been prepared, which are available in **Appendix F** for reference.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions of the Traffic Impact Study are as follows:

The existing base year (2019) weekday AM, and PM Peak hour traffic operations at the Study Area intersections are characterized by good levels of service and all movements operating within their capacities.

Under future background conditions, all Study Area intersections are anticipated to continue operating with acceptable levels of service and within capacity under the 2021 and 2026 horizon years.

Under the future total conditions, all Study Area intersections and site accesses are anticipated to operate at good levels of service and volume-to-capacity ratios under the 2021 and 2026 horizon years. No queueing issues are anticipated.

Delivery trucks, garbage trucks, and passenger cars can maneuver in to, out of, and within the development safely.

The provided parking spaces are less than the By-laws requirement, but it should be sufficient to meet the parking demand and to be used as a measure to encourage residents to switch to active transportation modes such as transit and biking for which infrastructures are already established in the study area.

In conclusion, the road network does not require any improvements or mitigation measures to accommodate the proposed development. The road network will continue to perform at good levels of service at all intersections and movements.

Appendix A SITE PLANS

3353-3359- Lakeshore Blvd. West

	m2	ft2	ac.
Land Area	**1,410.0**	**15,177**	**0.35**
Residential GFA	5,074.0	**54,617**	
Non-residential GFA	304.0	**3,272**	
Total GFA	5,378.0	**57,889**	
Total FSI	3.81		
Total units	**60**		
Total height			
Indoor Amenity Area	122.7	1320.7	
Outdoor Amenity Area	121.6	1308.9	

	GFA		RESIDENTIAL						
	m2	**ft2**	Retail	1BDR	1BDR+Den	2BDR	2BDR+Den	3BDR	Units
UG1	192.1	2,067.8	0	0	0	0	0	0	0
1st FLOOR	620.7	6,681.2	2	0	0	0	0	0	0
Mezzanine	80.6	867.6	0	0	0	0	0	0	0
2nd FLOOR	1,069.1	11,507.8	0	9	8	0	0	0	17
3rd FLOOR	1,069.1	11,507.8	0	9	8	0	0	0	17
4th FLOOR	914.3	9,841.5	0	2	5	3	2	0	12
5th FLOOR	773.4	8,324.9	0	1	0	4	0	3	8
6th FLOOR	658.7	7,090.2	0	1	0	1	1	3	6
Total	**5,378.0**	**57,888.8**	2	22	21	8	3	6	60
				72%		18%		10%	

UG1	1293.5	13,923.23
Total	1293.5	13,923.23

Car Parking required

Unit type	number	ratio	req
1BD	22	0.8	17
1BD+DEN	21	0.9	18
2BD	8	0.9	7
2BD+Den	3	0.9	2
3BD	6	1.1	6
Retail	304.0	1.5/100m2	4
visitors	60	0.15	9
Total			**63**

Bicycle Parking required

Unit type	number	ratio	req
Type 1: long-term bicycle parking			
Residential	60	0.68	40.8
Retail	275.8	0.13/100m2	0.4
Total type 1			42.0
Type 2: short-term bicycle parking			
Residential	60	0.07	4.2
Retail	275.8	3+(0.25/100m2)	3.7
Total type 2			8.0
Total Bicycle Parking			**50**

Car Parking provided

Floors	
UG1	30
Total	**30**

Bicycle Parking provided

Floors	
First	30
UG1	22
Total	**52**

SITE PLAN _ SCALE: 1/150

SURVEY PREPARED BY VLADIMIR DOSEN SURVEYING

FILE: 12-252
DATE: Feb. 23rd, 2016

	m2	ft2	ac.
Land Area	**2,410.0**	**15,177**	**0.35**
Residential GFA	5,074.0	**54,617**	
Non-residential GFA	304.0	**3,272**	
Total GFA	5,378.0	**57,889**	
Total FSI	3.81		
Total units	**60**		
Total height			
Indoor Amenity Area	122.7	1320.7	
Outdoor Amenity Area	121.6	1308.9	

	GFA		RESIDENTIAL						
	m2	ft2	Retail	1BDR	1BDR+Den	2BDR	2BDR+Den	3BDR	Units
UG1	192.1	2,067.8	0	0	0	C	0	0	0
1st FLOOR	620.7	6,681.2	2	0	0	C	0	0	0
Mezzanine	80.6	867.6	0	0	0	C	0	0	0
2nd FLOOR	1,069.1	11,507.8	0	9	8	C	0	0	17
3rd FLOOR	1,069.1	11,507.8	0	9	8	C	0	0	17
4th FLOOR	914.3	9,841.5	0	2	5	3	2	0	12
5th FLOOR	773.4	8,324.9	0	1	0	4	0	3	8
6th FLOOR	658.7	7,090.2	0	1	0	1	1	3	6
Total	**5,378.0**	**57,888.8**	2	22	21	8	3	6	60
					71%		18%	10%	

UG1	1293.5	13,923.23
Total	1293.5	13,923.23

Car Parking required

Unit type	number	ratio	req
1BD	22	0.8	17
1BD+DEN	21	0.9	18
2BD	8	0.9	7
2BD+Den	3	0.9	2
3BD	6	1.1	6
Retail	304.0	1.5/100m2	4
Visitors	60	0.15	9
Total			**63**

Car Parking provided

Floors	
UG1	30
Total	**30**

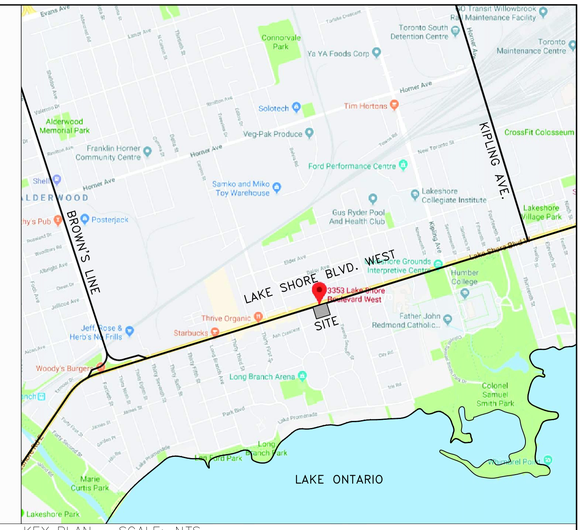
Bicycle Parking required

Unit type	number	ratio	req
Type 1: long-term bicycle parking			
Residential	60	0.68	40.8
Retail	275.8	0.13/100m2	0.4
Total type 1			42.0
Type 2: short-term bicycle parking			
Residential	60	0.07	4.2
Retail	275.8	3+(0.25/100m2)	3.7
Total type 2			8.0
Total Bicycle Parking			**50**

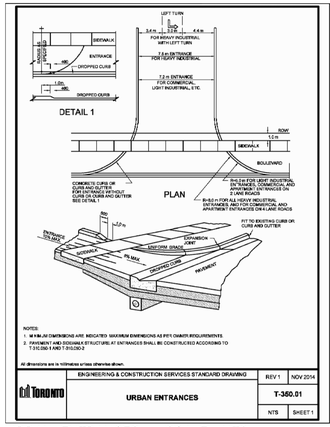
Bicycle Parking provided

Floors	
First	30
UG1	22
Total	**52**

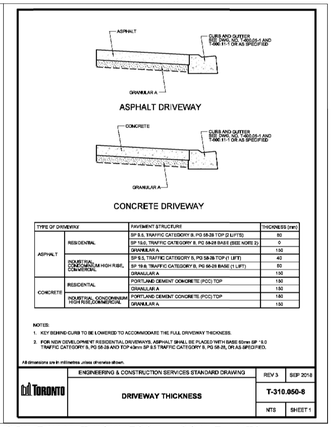
PROJECT STATISTICS



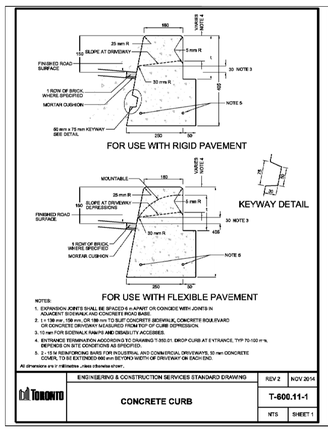
KEY PLAN _ SCALE: NTS



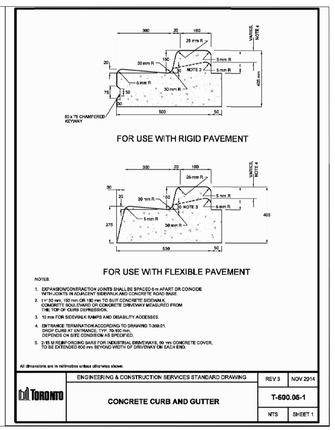
URBAN ENTRANCES _ SCALE: NTS



DRIVEWAY THICKNESS _ SCALE: NTS



CONCRETE CURB _ SCALE: NTS



CONCRETE CURB AND GUTTER _ SCALE: NTS

Statistics Template - Toronto Green Standard Version 3.0

Mid to High Rise Residential and all New Non-Residential Development

General Project Description	**Proposed**
Total Gross Floor Area	5,378.0 m2
Breakdown of project components (m²)	
Residential	5,074.0 m2
Retail	304.0 m2
Commercial	-
Industrial	-
Institutional/Other	-
Total number of residential units	60

Section 1: For Stand Alone Zoning Bylaw Amendment Applications and Site Plan Control Applications

Automobile Infrastructure	Required	Proposed	Proposed %
Number of Parking Spaces	70	30	42.85%
Number of parking spaces dedicated for priority LEV parking			
Number of parking spaces with EVSE	20%	6	20%

Cycling Infrastructure	Required	Proposed	Proposed %
Number of long-term bicycle parking spaces (residential)	41	41	100%
Number of long-term bicycle parking spaces (all other uses)	1	1	100%
Number of long-term bicycle parking (all uses) located on:			
a) first storey of building		20	
b) second storey of building		0	
c) first level below-ground		22	
d) second level below-ground		0	
e) other levels below-ground		0	

Cycling Infrastructure	Required	Proposed	Proposed %
Number of short-term bicycle parking spaces (residential)	4	5	100%
Number of short-term bicycle parking spaces (all other uses)	4	5	100%
Number of male shower and change facilities (non-residential)	N/A		
Number of female shower and change facilities (non-residential)	N/A		

Tree Planting & Soil Volume	Required	Proposed	Proposed %
Total Soil Volume (40% of the site area ÷ 66 m² x 30 m³).	256.2	44.5	17%

Toronto Green Standard V3.0 _ Statistics Template

LEGEND

- BUILDING ACCESS/EGRESS POINTS
- HYD FIRE HYDRANT
- FC FIRE DEPARTMENT CONNECTION
- CONCRETE CURBS
- CONCRETE CURBS
- 00.00 EXISTING GRADE
- FFE: +00.00 PROPOSED GRADE

NO.	REVISION/ISSUE	DATE	NO.	REVISION/ISSUE	DATE

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCIES TO ARCHITECT BEFORE PROCEEDING WITH WORK. ALL PRINTS AND SPECIFICATIONS ARE THE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED AT THE COMPLETION OF THE WORK. DRAWINGS SHOULD NOT BE SCALED.

NORTH

ONTARIO ASSOCIATION OF ARCHITECTS
M. REZA ESLAMI
LICENCE 6225

6 STOREY MIXED-USE BUILDING
3353-3359 LAKESHORE BLVD. WEST

APRIA

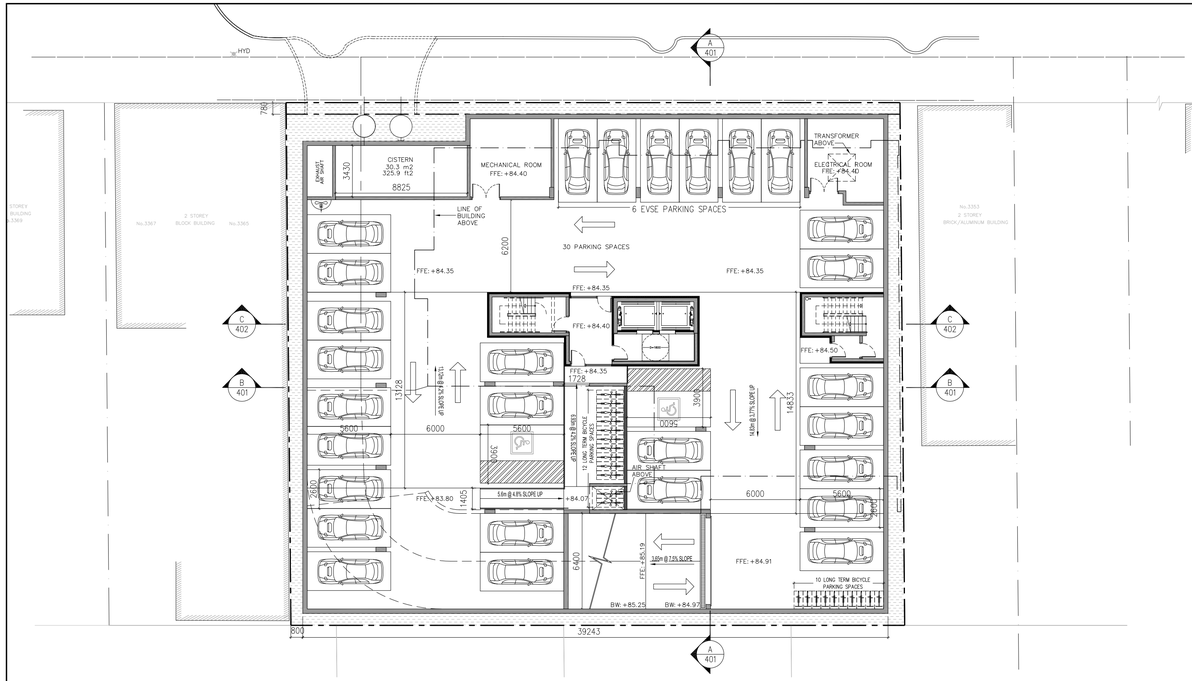
DRAWING TITLE
SITE PLAN

Scale: 1/150
Date: NOVEMBER 11, 2019
Project No. 19104

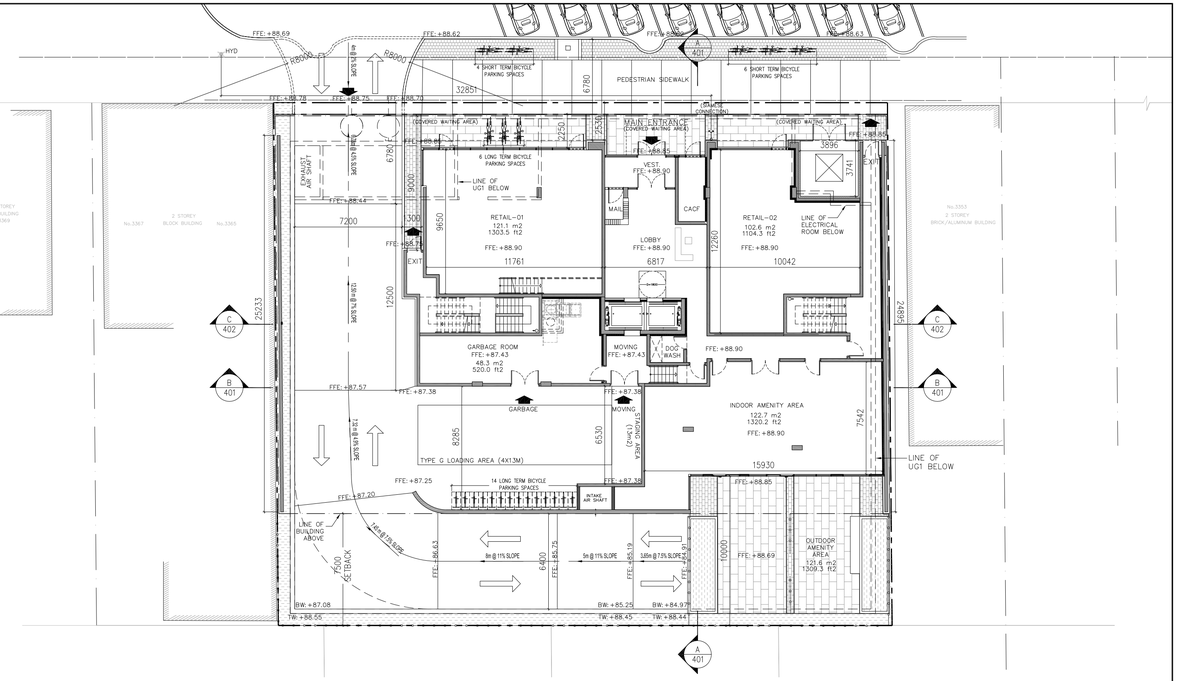
Drawn by: RK
Checked by: RE
Drawing No. A101

813 - 4789 YONGE ST. TORONTO M2N 0G3 ICONARCHITECTS.CA T:416-224-0505 F:416-224-0504

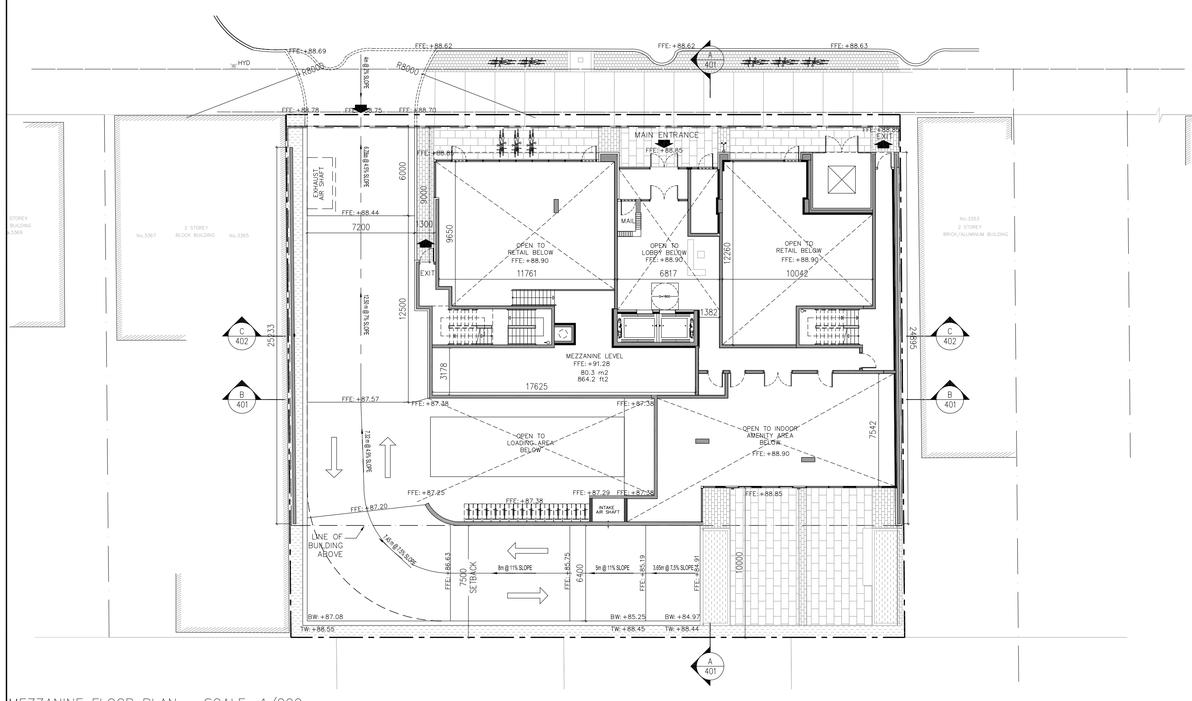
ICON ARCHITECTS



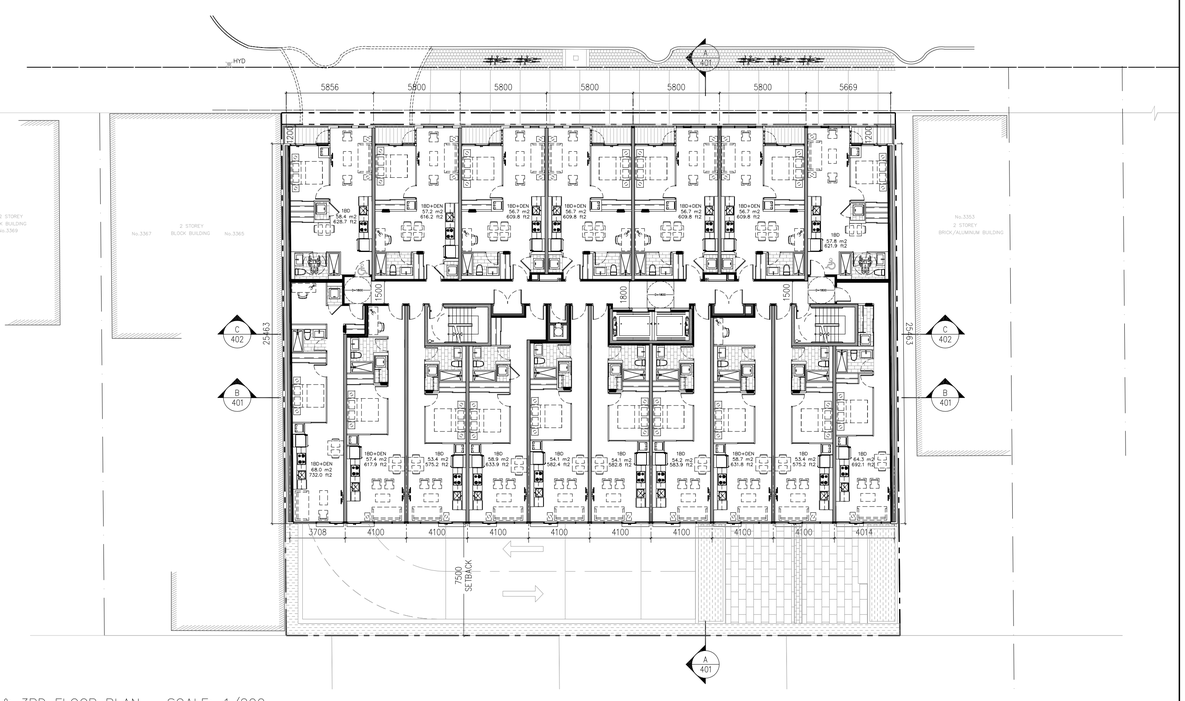
UG1 FLOOR PLAN _ SCALE: 1/200



1ST FLOOR PLAN _ SCALE: 1/200



MEZZANINE FLOOR PLAN _ SCALE: 1/200



2ND & 3RD FLOOR PLAN _ SCALE: 1/200

LEGEND

NO.	REVISION/ISSUE	DATE	NO.	REVISION/ISSUE	DATE

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCIES TO ARCHITECT BEFORE PROCEEDING WITH WORK. ALL PRINTS AND SPECIFICATIONS ARE THE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED AT THE COMPLETION OF THE WORK. DRAWINGS SHOULD NOT BE SCALED.

NORTH

6 STOREY MIXED-USE BUILDING
3353-3359 LAKESHORE BLVD. WEST

APRIA

DRAWING TITLE
FLOOR PLANS

Scale: 1/200
Date: NOVEMBER 11, 2019
Project No. 19104
Drawn by: RK
Checked by: RE
Drawing No. A201

813 - 4789 YONGE ST., TORONTO M2N 0G3 ICONARCHITECTS.CA
T:416-224-0505 F:416-224-0504

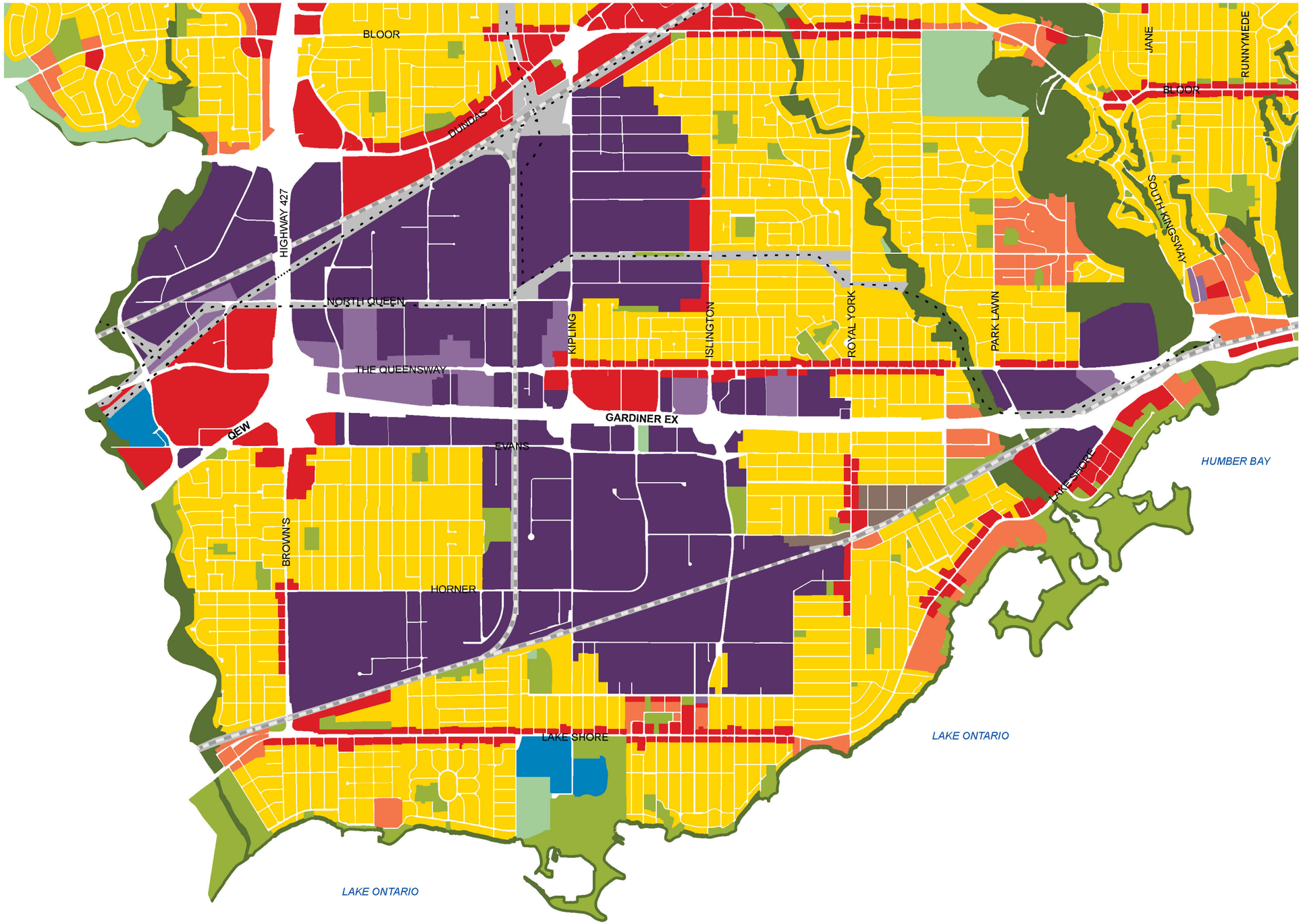
ICON ARCHITECTS

Appendix B ZONING MAPS

Toronto Official Plan

Map 15
Land Use Plan

February 2019



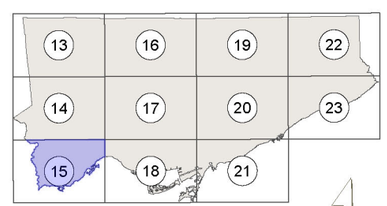
Land Use Designations

- Neighbourhoods
- Apartment Neighbourhoods
- Mixed Use Areas
- Natural Areas
- Parks
- Other Open Space Areas (Including Golf Courses, Cemeteries, Public Utilities)
- Institutional Areas
- Regeneration Areas
- General Employment Areas
- Core Employment Areas
- Utility Corridors

- Streets and Highways
- Railway Lines
- Hydro Corridors

0 500 1000 1500 m

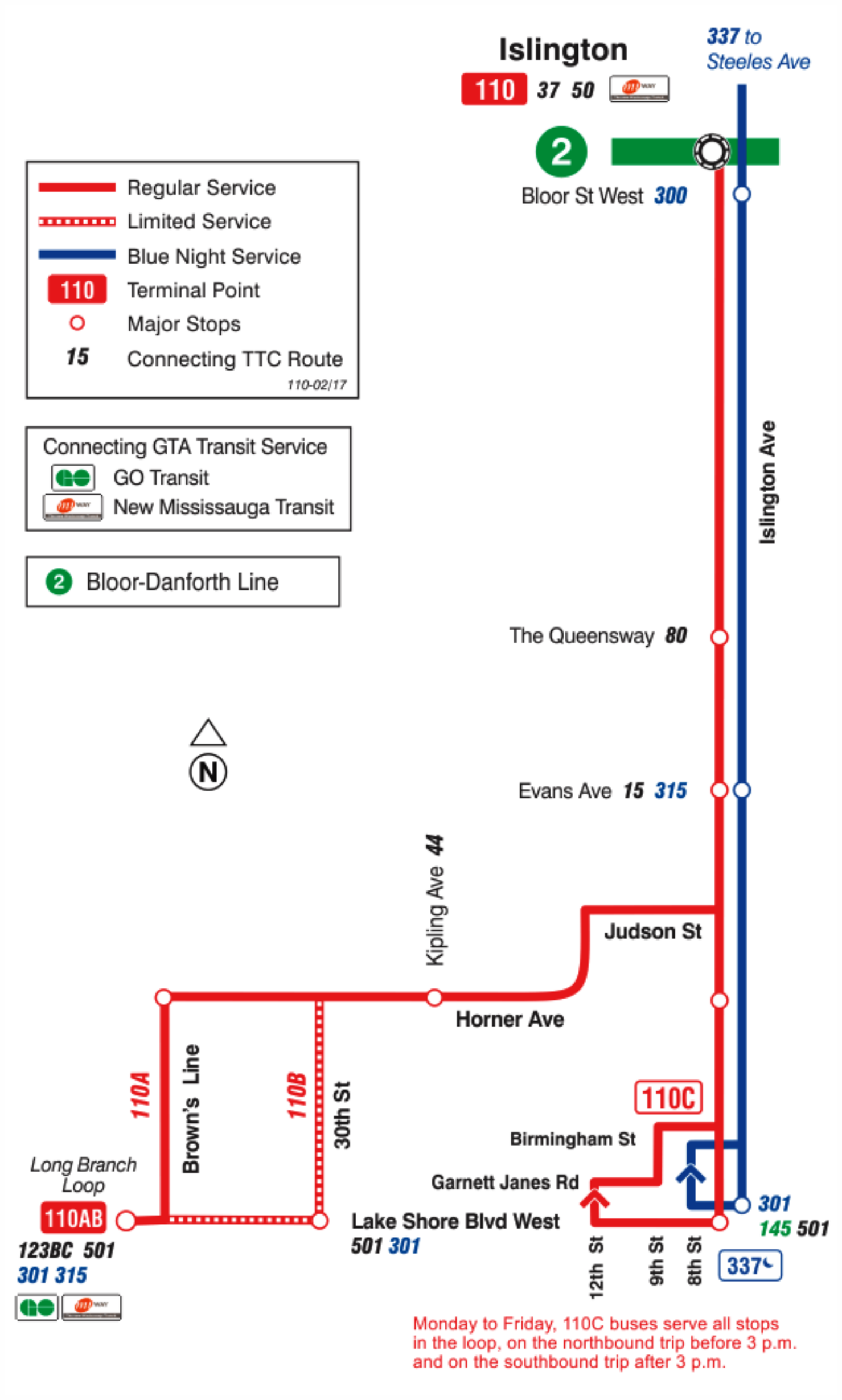
TORONTO



Key Map

Not to Scale

Appendix C BUS SCHEDULES AND ROUTE MAPS


Islington
110 37 50
337 to Steeles Ave
2
Bloor St West 300
Regular Service
Limited Service
Blue Night Service
110 Terminal Point
Major Stops
15 Connecting TTC Route
110-02/17
Connecting GTA Transit Service
GO Transit
New Mississauga Transit
2 Bloor-Danforth Line
Islington Ave
The Queensway 80
N
Evans Ave 15 315
Kipling Ave 44
Judson St
Horner Ave
110A
Brown's Line
110B
30th St
110C
Birmingham St
Garnett Janes Rd
Long Branch Loop
110AB
123BC 501
301 315
Lake Shore Blvd West
501 301
12th St
9th St
8th St
301
145 501
337
Monday to Friday, 110C buses serve all stops in the loop, on the northbound trip before 3 p.m. and on the southbound trip after 3 p.m.

301 Queen

Lake Shore Blvd W

The Queensway

Queen St W

Queen St E

Long Branch Loop — 315

Brown's Line — 315

N

Islington Ave — 337

Roncesvalles Ave / King St W — 304

Dufferin St — 329

Ossington Ave — 363

Bathurst St — 307

Spadina Ave — 310

Osgoode Station / University Ave — 1

Queen Station / Yonge St — 1 — 320

Parliament St — 365

Broadview Ave — 304

Carlaw Ave — 325

Coxwell Ave — 322

Neville Park Loop

MiWAY

Check with transit partners for hours of operation

Station Hours – Osgoode

Sat. & Holidays	5:55 a.m. to 1:50 a.m.
Sun.	8:10 a.m. to 1:50 a.m.
Mon. to Fri.	5:55 a.m. to 1:50 a.m.

Station Hours – Queen

Sat. & Holidays	5:55 a.m. to 1:50 a.m.
Sun.	8 a.m. to 1:50 a.m.
Mon. to Fri.	5:55 a.m. to 1:55 a.m.

Map indicates stops with connecting routes only.
For a list of all stops, refer to route page on ttc.ca.

501 Queen

Lake Shore Blvd W

The Queensway

Queen St W

Queen St E

- **Long Branch Loop** — 110AB, 123BC, GO, MiWay
- Brown's Line — 110A, 123BC
- N — 30th St — 110B
- Kipling Ave — 44, 145B, 944
- Islington Ave — 110C
- Mimico Ave — 76A
- Park Lawn Rd — 66B, 145A, 176
- **Humber Loop** — 66A, 80
- Windermere Ave — 77
- Parkside Dr — 80
- Roncesvalles Ave / King St W — 504A, 402
- Lansdowne Ave — 47, 402
- Dufferin St — 29, 929
- Ossington Ave — 63
- Bathurst St — 511
- Spadina Ave — 510
- **Osgoode Station** (University Ave) — 1, 142
- Bay St — 6
- **Queen Station** (Yonge St) — 1, 97B
- Jarvis St — 141
- Sherbourne St — 75
- Parliament St — 65
- Broadview Ave — 504B
- Carlaw Ave — 72
- Jones Ave — 83
- Greenwood Ave — 31
- Coxwell Ave — 22
- Kingston Rd — 22A, 502, 503
- Woodbine Ave — 92
- Wineva Ave — 64, 404
- **Neville Park Loop** — 143

Map indicates stops with connecting routes only.
For a list of all stops, refer to route page on ttc.ca.

508 Lake Shore

N

- **Long Branch Loop** — 110AB, 123BC, GO, MiWay
- Brown's Line — 110A, 123BC
- Thirtieth St — 110B
- Kipling Ave — 44, 145B, 944
- Twelfth Street — 110
- Islington Ave — 110
- Royal York Rd — 76
- Mimico Ave — 76, 176
- Park Lawn Rd — 66B, 145A, 176
- **Humber Loop** — 66A, 80
- Windermere Ave — 77
- Parkside Dr — 80
- Roncesvalles Ave / Queen St W — 501, 504A
- Dufferin St — 29
- Shaw St — 63
- Bathurst St — 511
- Spadina Ave — 510
- **St Andrew Station** (University Ave) — 1, 142
- Bay St — 6
- **King Station** (Yonge St) — 1, 97B
- Jarvis St — 141
- Sherbourne St — 75
- Parliament St — 504, 65

Lake Shore Blvd W | The Queensway | King St W | King St E

Map indicates stops with connecting routes only.
For a list of all stops, refer to route page on ttc.ca.

Appendix D TRAFFIC DATA

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Project #19344 - Stantec

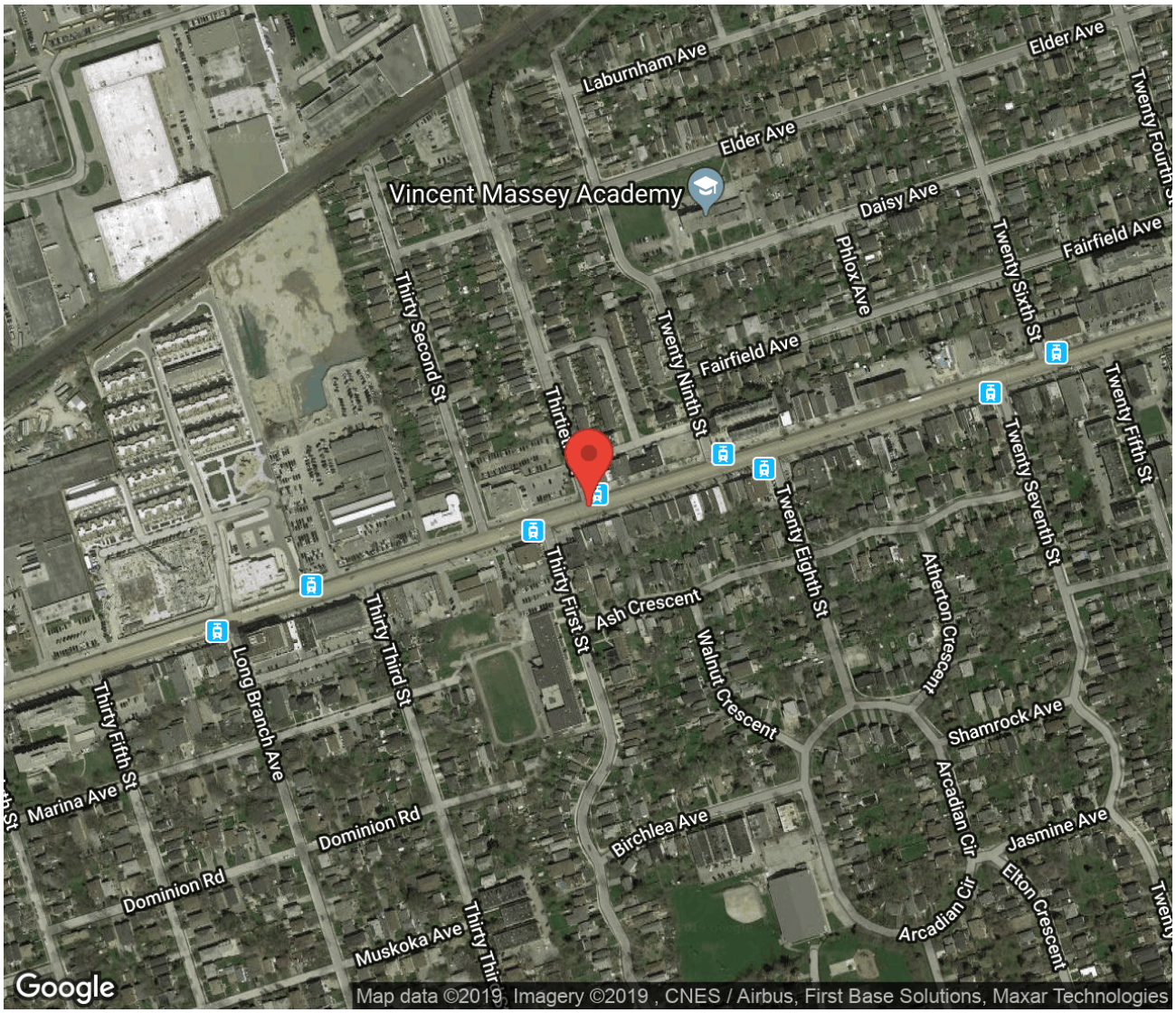
Intersection Count Report

Intersection:	Lake Shore Blvd W & Thirtieth St
Municipality:	Toronto
Count Date:	Oct 17, 2019
Site Code:	1934400001
Count Categories:	Cars, Trucks, Buses, Bicycles, Pedestrians
Count Period:	06:00-10:00, 15:00-19:00
Weather:	Clear

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Map

Intersection:	Lake Shore Blvd W & Thirtieth St
Municipality:	Toronto
Count Date:	Oct 17, 2019



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

Thirtieth St - Traffic Summary

	North Approach Totals						South Approach Totals					
	Includes Cars, Trucks, Buses, Bicycles						Includes Cars, Trucks, Buses, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
06:00 - 07:00	6	1	20	0	27	0	0	0	0	0	0	0
07:00 - 08:00	57	3	65	0	125	0	0	0	0	0	0	0
08:00 - 09:00	78	2	108	0	188	0	0	0	0	0	0	0
09:00 - 10:00	42	1	77	0	120	0	0	0	0	0	0	0
BREAK												
15:00 - 16:00	36	1	68	0	105	0	0	0	0	0	0	0
16:00 - 17:00	82	1	90	0	173	0	0	0	0	0	0	0
17:00 - 18:00	47	1	62	0	110	0	0	0	0	0	0	0
18:00 - 19:00	21	1	35	0	57	0	0	0	0	0	0	0
GRAND TOTAL	**369**	**11**	**525**	**0**	**905**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

Lake Shore Blvd W - Traffic Summary

	East Approach Totals						West Approach Totals					
	Includes Cars, Trucks, Buses, Bicycles						Includes Cars, Trucks, Buses, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
06:00 - 07:00	0	149	17	0	166	2	44	275	0	0	319	5
07:00 - 08:00	0	366	54	0	420	5	68	652	0	0	720	23
08:00 - 09:00	0	542	85	0	627	61	94	810	0	0	904	63
09:00 - 10:00	0	377	45	0	422	21	52	537	0	0	589	16
BREAK												
15:00 - 16:00	0	360	42	0	402	38	73	320	0	0	393	36
16:00 - 17:00	0	759	84	0	843	20	96	524	0	0	620	26
17:00 - 18:00	0	669	53	0	722	27	60	317	0	0	377	13
18:00 - 19:00	0	292	18	0	310	13	23	147	0	0	170	15
GRAND TOTAL	**0**	**3514**	**398**	**0**	**3912**	**187**	**510**	**3582**	**0**	**0**	**4092**	**197**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

North Approach - Thirtieth St

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
06:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
06:30	3	0	6	0	9	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0
06:45	1	0	8	0	9	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
07:00	6	0	8	0	14	1	0	0	0	1	0	0	1	0	1	0	1	0	0	1	0
07:15	9	0	14	0	23	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0
07:30	13	0	16	0	29	1	0	4	0	5	1	0	1	0	2	0	2	0	0	2	0
07:45	23	0	19	0	42	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0
08:00	23	0	22	0	45	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
08:15	20	0	18	0	38	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0
08:30	18	0	36	0	54	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:45	15	0	25	0	40	1	0	2	0	3	0	0	2	0	2	0	1	0	0	1	0
09:00	12	0	21	0	33	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
09:15	13	0	21	0	34	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
09:30	8	0	17	0	25	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0
09:45	8	0	15	0	23	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
SUBTOTAL	172	0	250	0	422	9	0	9	0	18	2	0	11	0	13	0	7	0	0	7	0

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

North Approach - Thirtieth St

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	6	0	11	0	17	0	0	1	0	1	1	0	2	0	3	0	0	0	0	0	0
15:15	5	0	12	0	17	0	0	0	0	0	1	0	1	0	2	0	1	0	0	1	0
15:30	9	0	16	0	25	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
15:45	14	0	21	0	35	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0
16:00	22	0	25	0	47	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0
16:15	18	0	23	0	41	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
16:30	23	0	20	0	43	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
16:45	19	0	18	0	37	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
17:00	14	0	19	0	33	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
17:15	12	0	17	0	29	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0
17:30	13	0	12	0	25	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
17:45	8	0	11	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	5	0	12	0	17	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0
18:15	6	0	8	0	14	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
18:30	5	0	8	0	13	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0
18:45	2	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	181	0	238	0	419	1	0	2	0	3	4	0	15	0	19	0	4	0	0	4	0
GRAND TOTAL	353	0	488	0	841	10	0	11	0	21	6	0	26	0	32	0	11	0	0	11	0

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

East Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
06:00	0	23	4	0	27	0	1	0	0	1	0	2	0	0	2	0	2	0	0	2	0
06:15	0	24	0	0	24	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	2
06:30	0	38	7	0	45	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	0
06:45	0	46	5	0	51	0	1	1	0	2	0	2	0	0	2	0	1	0	0	1	0
07:00	0	67	10	0	77	0	2	0	0	2	0	1	1	0	2	0	3	0	0	3	0
07:15	0	81	17	0	98	0	2	0	0	2	0	4	0	0	4	0	2	0	0	2	2
07:30	0	75	12	0	87	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45	0	121	13	0	134	0	3	1	0	4	0	3	0	0	3	0	1	0	0	1	2
08:00	0	120	17	0	137	0	0	1	0	1	0	5	0	0	5	0	1	0	0	1	3
08:15	0	130	23	0	153	0	6	0	0	6	0	3	0	0	3	0	0	0	0	0	6
08:30	0	143	21	0	164	0	4	0	0	4	0	2	0	0	2	0	2	0	0	2	44
08:45	0	123	22	0	145	0	2	1	0	3	0	1	0	0	1	0	0	0	0	0	8
09:00	0	115	12	0	127	0	1	0	0	1	0	2	1	0	3	0	1	0	0	1	4
09:15	0	91	13	0	104	0	7	0	0	7	0	2	0	0	2	0	3	0	0	3	15
09:30	0	82	10	0	92	0	4	0	0	4	0	2	0	0	2	0	1	0	0	1	0
09:45	0	61	9	0	70	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	2
SUBTOTAL	0	1340	195	0	1535	0	37	4	0	41	0	36	2	0	38	0	21	0	0	21	89

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

East Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	0	65	8	0	73	0	3	1	0	4	0	3	0	0	3	0	2	0	0	2	7
15:15	0	72	8	0	80	0	2	0	0	2	0	4	0	0	4	0	2	0	0	2	7
15:30	0	84	11	0	95	0	3	1	0	4	0	4	0	0	4	0	3	0	0	3	16
15:45	0	104	13	0	117	0	4	0	0	4	0	2	0	0	2	0	3	0	0	3	8
16:00	0	140	16	0	156	0	4	0	0	4	0	5	0	0	5	0	1	0	0	1	4
16:15	0	177	22	0	199	0	5	1	0	6	0	4	0	0	4	0	0	0	0	0	3
16:30	0	202	18	0	220	0	2	1	0	3	0	3	0	0	3	0	1	0	0	1	7
16:45	0	209	24	0	233	0	3	2	0	5	0	2	0	0	2	0	1	0	0	1	6
17:00	0	182	20	0	202	0	4	0	0	4	0	3	0	0	3	0	2	0	0	2	6
17:15	0	178	15	0	193	0	3	0	0	3	0	3	0	0	3	0	1	0	0	1	4
17:30	0	161	11	0	172	0	3	0	0	3	0	4	0	0	4	0	1	0	0	1	7
17:45	0	116	7	0	123	0	2	0	0	2	0	3	0	0	3	0	3	0	0	3	10
18:00	0	93	4	0	97	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	5
18:15	0	78	6	0	84	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	2
18:30	0	68	4	0	72	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	3
18:45	0	33	4	0	37	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	3
SUBTOTAL	0	1962	191	0	2153	0	47	6	0	53	0	51	0	0	51	0	20	0	0	20	98
GRAND TOTAL	0	3302	386	0	3688	0	84	10	0	94	0	87	2	0	89	0	41	0	0	41	187

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

West Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
06:00	0	24	0	0	24	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	0
06:15	7	58	0	0	65	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	1
06:30	15	68	0	0	83	0	1	0	0	1	1	1	0	0	2	0	2	0	0	2	3
06:45	20	102	0	0	122	0	4	0	0	4	1	3	0	0	4	0	3	0	0	3	1
07:00	10	105	0	0	115	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0	4
07:15	12	154	0	0	166	1	5	0	0	6	1	3	0	0	4	0	1	0	0	1	1
07:30	23	186	0	0	209	0	3	0	0	3	0	3	0	0	3	0	1	0	0	1	5
07:45	19	179	0	0	198	0	2	0	0	2	1	5	0	0	6	0	2	0	0	2	13
08:00	16	190	0	0	206	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	20
08:15	19	201	0	0	220	1	5	0	0	6	1	5	0	0	6	0	2	0	0	2	11
08:30	26	195	0	0	221	1	3	0	0	4	1	1	0	0	2	0	1	0	0	1	21
08:45	27	194	0	0	221	1	6	0	0	7	0	2	0	0	2	0	0	0	0	0	11
09:00	22	172	0	0	194	0	5	0	0	5	1	2	0	0	3	0	1	0	0	1	9
09:15	8	131	0	0	139	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	3
09:30	12	112	0	0	124	0	3	0	0	3	1	2	0	0	3	0	1	0	0	1	0
09:45	7	99	0	0	106	0	2	0	0	2	1	2	0	0	3	0	0	0	0	0	4
SUBTOTAL	243	2170	0	0	2413	5	46	0	0	51	10	39	0	0	49	0	19	0	0	19	107

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Thirtieth St
Municipality: Toronto
Count Date: Oct 17, 2019

West Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	13	72	0	0	85	0	2	0	0	2	1	3	0	0	4	0	2	0	0	2	7
15:15	16	67	0	0	83	0	4	0	0	4	2	3	0	0	5	0	2	0	0	2	15
15:30	20	64	0	0	84	0	1	0	0	1	1	4	0	0	5	0	2	0	0	2	10
15:45	19	85	0	0	104	0	3	0	0	3	1	3	0	0	4	0	3	0	0	3	4
16:00	24	115	0	0	139	1	4	0	0	5	1	3	0	0	4	0	1	0	0	1	7
16:15	25	127	0	0	152	1	2	0	0	3	1	3	0	0	4	0	0	0	0	0	6
16:30	21	138	0	0	159	1	5	0	0	6	1	2	0	0	3	0	0	0	0	0	4
16:45	18	117	0	0	135	0	2	0	0	2	2	3	0	0	5	0	2	0	0	2	9
17:00	16	93	0	0	109	0	2	0	0	2	2	2	0	0	4	0	0	0	0	0	3
17:15	18	71	0	0	89	0	2	0	0	2	0	3	0	0	3	0	2	0	0	2	3
17:30	13	68	0	0	81	0	2	0	0	2	1	2	0	0	3	0	1	0	0	1	2
17:45	10	63	0	0	73	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	5
18:00	8	49	0	0	57	0	3	0	0	3	1	4	0	0	5	0	1	0	0	1	5
18:15	5	34	0	0	39	0	3	0	0	3	1	1	0	0	2	0	0	0	0	0	3
18:30	4	28	0	0	32	0	2	0	0	2	1	2	0	0	3	0	0	0	0	0	4
18:45	3	17	0	0	20	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	3
SUBTOTAL	233	1208	0	0	1441	3	41	0	0	44	16	43	0	0	59	0	16	0	0	16	90
GRAND TOTAL	476	3378	0	0	3854	8	87	0	0	95	26	82	0	0	108	0	35	0	0	35	197

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	06:00:00	From:	08:00:00
To:	10:00:00	To:	09:00:00

Intersection: Lake Shore Blvd W & Thirtieth St
Site ID: 1934400001
Count Date: Oct 17, 2019

Weather conditions:

**** Signalized Intersection ****

Major Road: Lake Shore Blvd W runs E/W

North Approach

	Out	In	Total
Cars	177	171	348
Trucks	6	5	11
Buses	3	3	6
Bicycles	2	0	2
	188	**179**	**367**

Thirtieth St

Bicycles	0	0	0
Buses	3	0	0
Trucks	4	2	0
Cars	101	76	0
Totals	**108**	**78**	**0**

East Approach

	Out	In	Total
Cars	599	856	1455
Trucks	14	18	32
Buses	11	11	22
Bicycles	3	3	6
	627	**888**	**1515**

Lake Shore Blvd W

Bicycles	Buses	Trucks	Cars	Totals
0	0	0	0	**0**
0	3	3	88	**94**
3	11	16	780	**810**

Peds: 63

Peds: 0

Peds: 61

Peds: 0

Lake Shore Blvd W

Totals	Cars	Trucks	Buses	Bicycles
0	0	0	0	0
85	83	2	0	0
542	516	12	11	3

West Approach

	Out	In	Total
Cars	868	617	1485
Trucks	19	16	35
Buses	14	14	28
Bicycles	3	3	6
	904	**650**	**1554**

Cars - Trucks - Buses - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Lake Shore Blvd W & Thirtieth St
Count Date: Oct 17, 2019
Period: 06:00 - 10:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Thirtieth St						South Approach						East Approach Lake Shore Blvd W						West Approach Lake Shore Blvd W						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	24		22	0	0	46					0			126	18	0	3	144	17	195		0	20	212	402
08:15	20		20	0	0	40					0			139	23	0	6	162	21	213		0	11	234	436
08:30	18		37	0	0	55					0			151	21	0	44	172	28	200		0	21	228	455
08:45	16		29	0	0	45					0			126	23	0	8	149	28	202		0	11	230	424
Grand Total	**78**		**108**	**0**	**0**	**186**					**0**	**0**		**542**	**85**	**0**	**61**	**627**	**94**	**810**		**0**	**63**	**904**	**1717**
Approach %	41.9		58.1	0		-						-		86.4	13.6	0		-	10.4	89.6		0		-	
Totals %	4.5		6.3	0		10.8						0		31.6	5	0		36.5	5.5	47.2		0		52.6	
PHF	**0.81**		**0.73**	**0**		**0.85**						**0**		**0.9**	**0.92**	**0**		**0.91**	**0.84**	**0.95**		**0**		**0.97**	**0.94**
Cars	76		101	0		177						0		516	83	0		599	88	780		0		868	1644
% Cars	97.4		93.5	0		95.2						0		95.2	97.6	0		95.5	93.6	96.3		0		96	95.7
Trucks	2		4	0		6						0		12	2	0		14	3	16		0		19	39
% Trucks	2.6		3.7	0		3.2						0		2.2	2.4	0		2.2	3.2	2		0		2.1	2.3
Buses	0		3	0		3						0		11	0	0		11	3	11		0		14	28
% Buses	0		2.8	0		1.6						0		2	0	0		1.8	3.2	1.4		0		1.5	1.6
Bicycles	0		0	0		0						0		3	0	0		3	0	3		0		3	6
% Bicycles	0		0	0		0						0		0.6	0	0		0.5	0	0.4		0		0.3	0.3
Peds					0	-					0	-					61	-					63	-	124
% Peds					0	-					0	-					49.2	-					50.8	-	

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	15:00:00	From:	16:00:00
To:	19:00:00	To:	17:00:00

Intersection: Lake Shore Blvd W & Thirtieth St
Site ID: 1934400001
Count Date: Oct 17, 2019

Weather conditions:

**** Signalized Intersection ****

Major Road: Lake Shore Blvd W runs E/W

North Approach

	Out	In	Total
Cars	168	168	336
Trucks	0	7	7
Buses	4	5	9
Bicycles	1	0	1
	173	**180**	**353**

Thirtieth St

Bicycles	0	0	0
Buses	4	0	0
Trucks	0	0	0
Cars	86	82	0
Totals	**90**	**82**	**0**

East Approach

	Out	In	Total
Cars	808	579	1387
Trucks	18	13	31
Buses	14	11	25
Bicycles	3	3	6
	843	**606**	**1449**

Lake Shore Blvd W

Bicycles	Buses	Trucks	Cars	Totals	
0	0	0	0	**0**	
0	5	3	88	**96**	
3	11	13	497	**524**	

Peds: 26

Peds: 0

Peds: 20

Peds: 0

Lake Shore Blvd W

	Totals	Cars	Trucks	Buses	Bicycles
	0	0	0	0	0
	84	80	4	0	0
	759	728	14	14	3

West Approach

	Out	In	Total
Cars	585	814	1399
Trucks	16	14	30
Buses	16	18	34
Bicycles	3	3	6
	620	**849**	**1469**

Cars - Trucks - Buses - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Lake Shore Blvd W & Thirtieth St
Count Date: Oct 17, 2019
Period: 15:00 - 19:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Thirtieth St						South Approach						East Approach Lake Shore Blvd W						West Approach Lake Shore Blvd W						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:00	22		26	0	0	48					0			150	16	0	4	166	26	123		0	7	149	363
16:15	18		24	0	0	42					0			186	23	0	3	209	27	132		0	6	159	410
16:30	23		21	0	0	44					0			208	19	0	7	227	23	145		0	4	168	439
16:45	19		19	0	0	38					0			215	26	0	6	241	20	124		0	9	144	423
Grand Total	**82**		**90**	**0**	**0**	**172**					**0**	**0**		**759**	**84**	**0**	**20**	**843**	**96**	**524**		**0**	**26**	**620**	**1635**
Approach %	47.7		52.3	0		-						-		90	10	0		-	15.5	84.5		0		-	
Totals %	5		5.5	0		10.5						0		46.4	5.1	0		51.6	5.9	32		0		37.9	
PHF	**0.89**		**0.87**	**0**		**0.9**						**0**		**0.88**	**0.81**	**0**		**0.87**	**0.89**	**0.9**		**0**		**0.92**	**0.93**
Cars	82		86	0		168						0		728	80	0		808	88	497		0		585	1561
% Cars	100		95.6	0		97.7						0		95.9	95.2	0		95.8	91.7	94.8		0		94.4	95.5
Trucks	0		0	0		0						0		14	4	0		18	3	13		0		16	34
% Trucks	0		0	0		0						0		1.8	4.8	0		2.1	3.1	2.5		0		2.6	2.1
Buses	0		4	0		4						0		14	0	0		14	5	11		0		16	34
% Buses	0		4.4	0		2.3						0		1.8	0	0		1.7	5.2	2.1		0		2.6	2.1
Bicycles	0		0	0		0						0		3	0	0		3	0	3		0		3	6
% Bicycles	0		0	0		0						0		0.4	0	0		0.4	0	0.6		0		0.5	0.4
Peds					0	-					0	-					20	-					26	-	46
% Peds					0	-					0	-					43.5	-					56.5	-	

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Project #19344 - Stantec

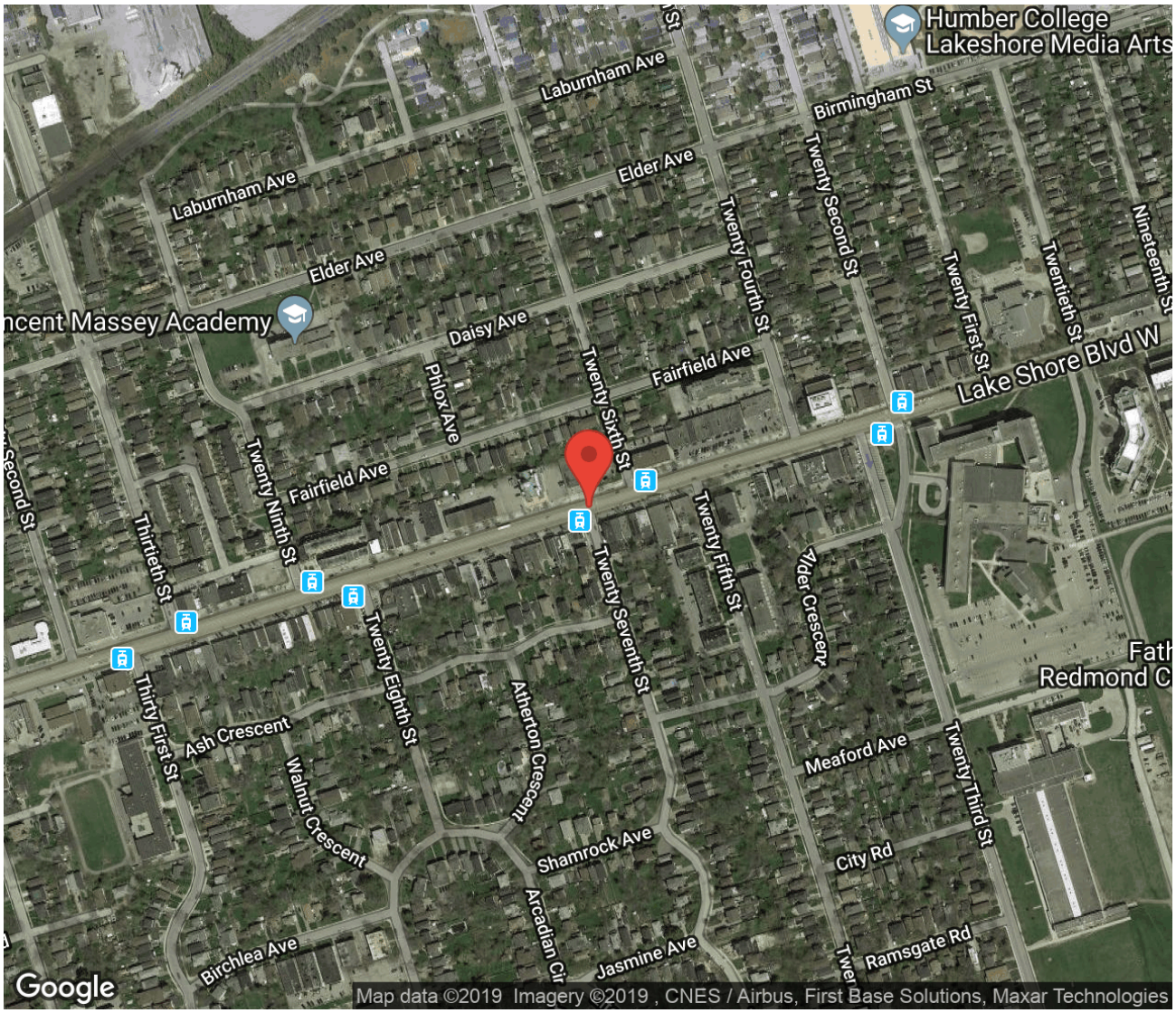
Intersection Count Report

Intersection:	Lake Shore Blvd W & Twenty Seventh St
Municipality:	Toronto
Count Date:	Oct 17, 2019
Site Code:	1934400002
Count Categories:	Cars, Trucks, Buses, Bicycles, Pedestrians
Count Period:	06:00-10:00, 15:00-19:00
Weather:	Clear

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Map

Intersection:	Lake Shore Blvd W & Twenty Seventh St
Municipality:	Toronto
Count Date:	Oct 17, 2019



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

Commercial Access - Traffic Summary

	North Approach Totals						South Approach Totals					
	Includes Cars, Trucks, Buses, Bicycles						Includes Cars, Trucks, Buses, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
06:00 - 07:00	0	0	0	0	0	5	1	0	6	0	7	4
07:00 - 08:00	0	0	2	0	2	8	25	1	19	0	45	8
08:00 - 09:00	0	0	0	0	0	20	27	2	46	0	75	23
09:00 - 10:00	0	0	0	0	0	25	8	0	24	0	32	13
BREAK												
15:00 - 16:00	0	0	0	0	0	10	13	0	23	0	36	13
16:00 - 17:00	0	0	0	0	0	13	21	0	20	0	41	13
17:00 - 18:00	0	0	0	0	0	18	21	0	21	0	42	14
18:00 - 19:00	0	0	0	0	0	7	17	0	15	0	32	13
GRAND TOTAL	**0**	**0**	**2**	**0**	**2**	**106**	**133**	**3**	**174**	**0**	**310**	**101**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

Lake Shore Blvd W - Traffic Summary

	East Approach Totals						West Approach Totals					
	Includes Cars, Trucks, Buses, Bicycles						Includes Cars, Trucks, Buses, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
06:00 - 07:00	5	139	0	0	144	4	0	279	0	0	279	5
07:00 - 08:00	7	313	2	0	322	7	1	658	8	0	667	18
08:00 - 09:00	14	477	5	0	496	15	0	838	5	0	843	15
09:00 - 10:00	12	356	0	0	368	13	1	512	12	0	525	25
BREAK												
15:00 - 16:00	24	430	0	0	454	12	0	443	26	0	469	17
16:00 - 17:00	41	669	0	0	710	17	0	549	39	0	588	17
17:00 - 18:00	27	743	0	0	770	20	0	581	25	0	606	18
18:00 - 19:00	21	577	0	0	598	14	0	475	28	0	503	13
GRAND TOTAL	**151**	**3704**	**7**	**0**	**3862**	**102**	**2**	**4335**	**143**	**0**	**4480**	**128**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

North Approach - Commercial Access

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
					Total					Total					Total					Total	
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SUBTOTAL	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

North Approach - Commercial Access

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
GRAND TOTAL	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

South Approach - Twenty Seventh St

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
06:00	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:15	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
06:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	4	0	3	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	4	0	5	0	9	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	4
07:30	3	0	5	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45	12	0	6	0	18	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
08:00	6	0	7	0	13	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6
08:15	4	0	16	0	20	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
08:30	11	0	7	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
08:45	6	0	14	0	20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	10
09:00	2	0	5	0	7	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3
09:15	3	0	5	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
09:30	2	0	6	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
09:45	1	0	7	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
SUBTOTAL	59	0	91	0	150	1	0	0	0	1	1	0	4	0	5	0	3	0	0	3	48

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

South Approach - Twenty Seventh St

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	2	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15:15	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
15:30	4	0	5	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
15:45	3	0	7	0	10	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
16:00	6	0	4	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16:15	5	0	6	0	11	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
16:30	4	0	5	0	9	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4
16:45	5	0	4	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
17:00	3	0	3	0	6	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
17:15	4	0	6	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
17:30	6	0	7	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
17:45	8	0	4	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18:00	5	0	3	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
18:15	5	0	5	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
18:30	4	0	4	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
18:45	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	70	0	77	0	147	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0	53
GRAND TOTAL	129	0	168	0	297	2	0	1	0	3	2	0	5	0	7	0	3	0	0	3	101

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

East Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
					Total					Total					Total					Total	
06:00	0	18	0	0	18	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1
06:15	1	25	0	0	26	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0
06:30	2	43	0	0	45	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	1
06:45	2	38	0	0	40	0	4	0	0	4	0	1	0	0	1	0	1	0	0	1	2
07:00	0	56	1	0	57	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	1
07:15	4	74	0	0	78	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0
07:30	1	73	1	0	75	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45	1	97	0	0	98	0	2	0	0	2	1	1	0	0	2	0	1	0	0	1	5
08:00	3	97	0	0	100	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	2
08:15	2	114	0	0	116	0	5	0	0	5	0	4	0	0	4	0	1	0	0	1	4
08:30	1	125	0	0	126	0	4	0	0	4	0	1	0	0	1	0	1	0	0	1	4
08:45	7	115	5	0	127	1	2	0	0	3	0	1	0	0	1	0	2	0	0	2	5
09:00	3	91	0	0	94	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	2
09:15	6	93	0	0	99	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	6
09:30	1	55	0	0	56	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	1
09:45	2	92	0	0	94	0	7	0	0	7	0	1	0	0	1	0	1	0	0	1	4
SUBTOTAL	36	1206	7	0	1249	1	45	0	0	46	1	18	0	0	19	0	16	0	0	16	39

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

East Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	4	88	0	0	92	0	4	0	0	4	0	2	0	0	2	0	1	0	0	1	3
15:15	5	96	0	0	101	0	3	0	0	3	0	3	0	0	3	0	2	0	0	2	3
15:30	6	103	0	0	109	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	2
15:45	9	111	0	0	120	0	6	0	0	6	0	3	0	0	3	0	1	0	0	1	4
16:00	9	132	0	0	141	0	9	0	0	9	0	4	0	0	4	0	3	0	0	3	3
16:15	11	157	0	0	168	0	10	0	0	10	0	6	0	0	6	0	2	0	0	2	4
16:30	11	170	0	0	181	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	5
16:45	10	162	0	0	172	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
17:00	5	181	0	0	186	0	7	0	0	7	0	1	0	0	1	0	1	0	0	1	3
17:15	8	176	0	0	184	0	8	0	0	8	0	2	0	0	2	0	3	0	0	3	7
17:30	6	176	0	0	182	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
17:45	8	178	0	0	186	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
18:00	5	180	0	0	185	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	4
18:15	7	176	0	0	183	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
18:30	5	119	0	0	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18:45	4	90	0	0	94	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	113	2295	0	0	2408	0	77	0	0	77	0	24	0	0	24	0	23	0	0	23	63
GRAND TOTAL	149	3501	7	0	3657	1	122	0	0	123	1	42	0	0	43	0	39	0	0	39	102

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

West Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
					Total					Total					Total					Total	
06:00	0	43	0	0	43	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
06:15	0	62	0	0	62	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	1
06:30	0	67	0	0	67	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	3
06:45	0	93	0	0	93	0	3	0	0	3	0	1	0	0	1	0	2	0	0	2	1
07:00	1	105	0	0	106	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	4
07:15	0	151	1	0	152	0	6	0	0	6	0	4	0	0	4	0	3	0	0	3	4
07:30	0	210	1	0	211	0	4	0	0	4	0	1	1	0	2	0	0	0	0	0	1
07:45	0	169	4	0	173	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	9
08:00	0	202	3	0	205	0	5	0	0	5	0	6	0	0	6	0	2	0	0	2	2
08:15	0	195	1	0	196	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	5
08:30	0	208	0	0	208	0	6	0	0	6	0	2	0	0	2	0	4	0	0	4	5
08:45	0	197	1	0	198	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	3
09:00	0	181	3	0	184	0	3	0	0	3	0	1	0	0	1	0	3	0	0	3	1
09:15	1	118	2	0	121	0	4	0	0	4	0	1	0	0	1	0	3	0	0	3	5
09:30	0	70	3	0	73	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	8
09:45	0	118	4	0	122	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	11
SUBTOTAL	2	2189	23	0	2214	0	51	1	0	52	0	20	1	0	21	0	27	0	0	27	63

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Lake Shore Blvd W & Twenty Seventh St
Municipality: Toronto
Count Date: Oct 17, 2019

West Approach - Lake Shore Blvd W

Start Time	Cars					Trucks					Buses					Bicycles					Total Peds
					Total					Total					Total					Total	
15:00	0	99	5	0	104	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	4
15:15	0	100	6	0	106	0	6	0	0	6	0	1	0	0	1	0	1	0	0	1	2
15:30	0	99	8	0	107	0	4	1	0	5	0	4	0	0	4	0	2	0	0	2	5
15:45	0	111	6	0	117	0	5	0	0	5	0	4	0	0	4	0	2	0	0	2	6
16:00	0	123	10	0	133	0	3	0	0	3	0	5	0	0	5	0	1	0	0	1	4
16:15	0	134	8	0	142	0	6	0	0	6	0	5	0	0	5	0	0	0	0	0	3
16:30	0	130	12	0	142	0	3	0	0	3	0	0	1	0	1	0	2	0	0	2	6
16:45	0	127	8	0	135	0	8	0	0	8	0	2	0	0	2	0	0	0	0	0	4
17:00	0	130	6	0	136	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
17:15	0	142	6	0	148	0	4	0	0	4	0	5	0	0	5	0	1	0	0	1	4
17:30	0	141	5	0	146	0	5	0	0	5	0	3	0	0	3	0	0	0	0	0	6
17:45	0	136	8	0	144	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	3
18:00	0	140	9	0	149	0	5	0	0	5	0	2	0	0	2	0	0	0	0	0	5
18:15	0	127	10	0	137	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
18:30	0	98	5	0	103	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2
18:45	0	94	4	0	98	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	0	1931	116	0	2047	0	76	1	0	77	0	31	1	0	32	0	10	0	0	10	65
GRAND TOTAL	2	4120	139	0	4261	0	127	2	0	129	0	51	2	0	53	0	37	0	0	37	128

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	06:00:00	From:	08:00:00
To:	10:00:00	To:	09:00:00

Intersection: Lake Shore Blvd W & Twenty Seventh St
Site ID: 1934400002
Count Date: Oct 17, 2019

Weather conditions:

**** Signalized Intersection ****

Major Road: Lake Shore Blvd W runs E/W

North Approach

	Out	In	Total
Cars	0	5	5
Trucks	0	0	0
Buses	0	0	0
Bicycles	0	2	2
	0	**7**	**7**

Commercial Access

Bicycles	0	0	0	0
Buses	0	0	0	0
Trucks	0	0	0	0
Cars	0	0	0	0
Totals	**0**	**0**	**0**	**0**

East Approach

	Out	In	Total
Cars	469	846	1315
Trucks	12	19	31
Buses	9	12	21
Bicycles	6	7	13
	496	**884**	**1380**

Peds: 20

Lake Shore Blvd W

Bicycles	Buses	Trucks	Cars	Totals	
0	0	0	0	**0**	
0	0	0	0	**0**	
7	10	19	802	**838**	
0	0	0	5	**5**	

Peds: 15

N
W E
S

Peds: 15

Lake Shore Blvd W

	Totals	Cars	Trucks	Buses	Bicycles
	0	0	0	0	0
	5	5	0	0	0
	477	451	11	9	6
	14	13	1	0	0

Peds: 23

West Approach

	Out	In	Total
Cars	807	478	1285
Trucks	19	11	30
Buses	10	9	19
Bicycles	7	6	13
	843	**504**	**1347**

Totals	**27**	**2**	**46**	**0**
Cars	27	0	44	0
Trucks	0	0	0	0
Buses	0	0	2	0
Bicycles	0	2	0	0

Twenty Seventh St

South Approach

	Out	In	Total
Cars	71	18	89
Trucks	0	1	1
Buses	2	0	2
Bicycles	2	0	2
	75	**19**	**94**

Cars - Trucks - Buses - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Lake Shore Blvd W & Twenty Seventh St
Count Date: Oct 17, 2019
Period: 06:00 - 10:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Commercial Access						South Approach Twenty Seventh St						East Approach Lake Shore Blvd W						West Approach Lake Shore Blvd W						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	0	0	0	0	6	0	6	1	7	0	6	14	3	102	0	0	2	105	0	215	3	0	2	218	337
08:15	0	0	0	0	6	0	4	0	18	0	2	22	2	124	0	0	4	126	0	200	1	0	5	201	349
08:30	0	0	0	0	3	0	11	0	7	0	5	18	1	131	0	0	4	132	0	220	0	0	5	220	370
08:45	0	0	0	0	5	0	6	1	14	0	10	21	8	120	5	0	5	133	0	203	1	0	3	204	358
Grand Total	**0**	**0**	**0**	**0**	**20**	**0**	**27**	**2**	**46**	**0**	**23**	**75**	**14**	**477**	**5**	**0**	**15**	**496**	**0**	**838**	**5**	**0**	**15**	**843**	**1414**
Approach %	0	0	0	0		-	36	2.7	61.3	0		-	2.8	96.2	1	0		-	0	99.4	0.6	0		-	
Totals %	0	0	0	0		0	1.9	0.1	3.3	0		5.3	1	33.7	0.4	0		35.1	0	59.3	0.4	0		59.6	
PHF	**0**	**0**	**0**	**0**		**0**	**0.61**	**0.5**	**0.64**	**0**		**0.85**	**0.44**	**0.91**	**0.25**	**0**		**0.93**	**0**	**0.95**	**0.42**	**0**		**0.96**	**0.96**
Cars	0	0	0	0		0	27	0	44	0		71	13	451	5	0		469	0	802	5	0		807	1347
% Cars	0	0	0	0		0	100	0	95.7	0		94.7	92.9	94.5	100	0		94.6	0	95.7	100	0		95.7	95.3
Trucks	0	0	0	0		0	0	0	0	0		0	1	11	0	0		12	0	19	0	0		19	31
% Trucks	0	0	0	0		0	0	0	0	0		0	7.1	2.3	0	0		2.4	0	2.3	0	0		2.3	2.2
Buses	0	0	0	0		0	0	0	2	0		2	0	9	0	0		9	0	10	0	0		10	21
% Buses	0	0	0	0		0	0	0	4.3	0		2.7	0	1.9	0	0		1.8	0	1.2	0	0		1.2	1.5
Bicycles	0	0	0	0		0	0	2	0	0		2	0	6	0	0		6	0	7	0	0		7	15
% Bicycles	0	0	0	0		0	0	100	0	0		2.7	0	1.3	0	0		1.2	0	0.8	0	0		0.8	1.1
Peds					20	-					23	-					15	-					15	-	73
% Peds					27.4	-					31.5	-					20.5	-					20.5	-	

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	15:00:00	From:	17:15:00
To:	19:00:00	To:	18:15:00

Intersection: Lake Shore Blvd W & Twenty Seventh St
Site ID: 1934400002
Count Date: Oct 17, 2019

Weather conditions:

**** Signalized Intersection ****

Major Road: Lake Shore Blvd W runs E/W

North Approach

	Out	In	Total
Cars	0	0	0
Trucks	0	0	0
Buses	0	0	0
Bicycles	0	0	0
	0	**0**	**0**

Commercial Access

Bicycles	0	0	0	0
Buses	0	0	0	0
Trucks	0	0	0	0
Cars	0	0	0	0
Totals	**0**	**0**	**0**	**0**

East Approach

	Out	In	Total
Cars	737	579	1316
Trucks	18	22	40
Buses	5	10	15
Bicycles	7	2	9
	767	**613**	**1380**

Lake Shore Blvd W

Bicycles	Buses	Trucks	Cars	Totals
0	0	0	0	**0**
0	0	0	0	**0**
2	10	22	559	**593**
0	0	0	28	**28**

Peds: 15

Peds: 18

Peds: 21

Peds: 16

Lake Shore Blvd W

Totals	Cars	Trucks	Buses	Bicycles
0	0	0	0	0
0	0	0	0	0
740	710	18	5	7
27	27	0	0	0

West Approach

	Out	In	Total
Cars	587	733	1320
Trucks	22	18	40
Buses	10	5	15
Bicycles	2	7	9
	621	**763**	**1384**

Totals	**23**	**0**	**20**	**0**
Cars	23	0	20	0
Trucks	0	0	0	0
Buses	0	0	0	0
Bicycles	0	0	0	0

Twenty Seventh St

South Approach

	Out	In	Total
Cars	43	55	98
Trucks	0	0	0
Buses	0	0	0
Bicycles	0	0	0
	43	**55**	**98**

- Cars - Trucks - Buses - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Lake Shore Blvd W & Twenty Seventh St
Count Date: Oct 17, 2019
Period: 15:00 - 19:00

Peak Hour Data (17:15 - 18:15)

Start Time	North Approach Commercial Access						South Approach Twenty Seventh St						East Approach Lake Shore Blvd W						West Approach Lake Shore Blvd W						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:15	0	0	0	0	4	0	4	0	6	0	5	10	8	189	0	0	7	197	0	152	6	0	4	158	365
17:30	0	0	0	0	5	0	6	0	7	0	4	13	6	181	0	0	5	187	0	149	5	0	6	154	354
17:45	0	0	0	0	3	0	8	0	4	0	2	12	8	183	0	0	5	191	0	145	8	0	3	153	356
18:00	0	0	0	0	3	0	5	0	3	0	5	8	5	187	0	0	4	192	0	147	9	0	5	156	356
Grand Total	**0**	**0**	**0**	**0**	**15**	**0**	**23**	**0**	**20**	**0**	**16**	**43**	**27**	**740**	**0**	**0**	**21**	**767**	**0**	**593**	**28**	**0**	**18**	**621**	**1431**
Approach %	0	0	0	0		-	53.5	0	46.5	0		-	3.5	96.5	0	0		-	0	95.5	4.5	0		-	
Totals %	0	0	0	0		0	1.6	0	1.4	0		3	1.9	51.7	0	0		53.6	0	41.4	2	0		43.4	
PHF	**0**	**0**	**0**	**0**		**0**	**0.72**	**0**	**0.71**	**0**		**0.83**	**0.84**	**0.98**	**0**	**0**		**0.97**	**0**	**0.98**	**0.78**	**0**		**0.98**	**0.98**
Cars	0	0	0	0		0	23	0	20	0		43	27	710	0	0		737	0	559	28	0		587	1367
% Cars	0	0	0	0		0	100	0	100	0		100	100	95.9	0	0		96.1	0	94.3	100	0		94.5	95.5
Trucks	0	0	0	0		0	0	0	0	0		0	0	18	0	0		18	0	22	0	0		22	40
% Trucks	0	0	0	0		0	0	0	0	0		0	0	2.4	0	0		2.3	0	3.7	0	0		3.5	2.8
Buses	0	0	0	0		0	0	0	0	0		0	0	5	0	0		5	0	10	0	0		10	15
% Buses	0	0	0	0		0	0	0	0	0		0	0	0.7	0	0		0.7	0	1.7	0	0		1.6	1
Bicycles	0	0	0	0		0	0	0	0	0		0	0	7	0	0		7	0	2	0	0		2	9
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0.9	0	0		0.9	0	0.3	0	0		0.3	0.6
Peds					15	-					16	-					21	-					18	-	70
% Peds					21.4	-					22.9	-					30	-					25.7	-	

Appendix E SIGNAL TIMING PLANS

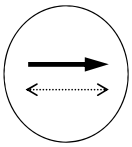
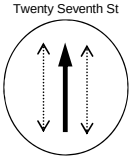
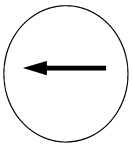
LOCATION:	**Lake Shore Blvd W & Thirtieth St**	*DISTRICT:*	**Etobicoke - York**
MODE/COMMENT:	**SA2-VMG with PR**	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**239**	*CONTROLLER/CABINET TYPE:*	**Econolite ASC/3-2100 / TS2T1**
PREPARED/CHECKED BY:	***IBI* / RI / PV**	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**October 28, 2016**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**November 25, 2016**	*CHANNEL/DROP:*	**4086 / 15**
		CONTROLLER FIRMWARE:	**2.47.10**

NEMA Phase		OFF	AM	PM	NGHT	WKND	Grdnr Clsr	Phase Mode	Remarks
		All Other Times	06:30-09:30 M-F	15:00-19:00 M-F	22:00-06:30 Daily	10:30-18:30 Sat-Sun	Gardiner Closure	(Fixed/Demanded/Callable)	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 16		
	System Plan	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 16		
1 NOT USED	WLK								Pedestrian Minimums: EWWK = 7 sec. EWFD = 11 sec. NSWK = 7 sec. NSFD = 17 sec.
	FDW								SB phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum SBG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the SBG is capable of providing vehicle extensions up to the maximum.
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
Lake Shore Blvd W 2 →	WLK	7							If a pedestrian call is received, the pedestrian minimums will be served.The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Unused extension time is based on vehicle demand and is taken from the EWG.
	FDW	11						Fixed	
	MIN	18							
	MAX1	47							
	AMB	4							
	ALR	2							Side Street Passage Time = 3 seconds.
	SPLIT		52	41	54	46	54	60	Left-Turn Passage Time = 2 seconds.
3 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
4 NOT USED	WLK	7							
	FDW	17							
	MIN	7							
	MAX1	24							
	AMB	3							
	ALR	2							
	SPLIT		30	30	30	30	30	30	
5 ↑→	WLK								
	FDW								
	MIN	6						Demanded. 6:30-9:30, M-F (Shared left/thru lane.)	
	MAX1	6							
	AMB	3							
	ALR	1							
	SPLIT			11					
Lake Shore Blvd W 6 ←→	WLK	7							
	FDW	11							
	MIN	18						Fixed	
	MAX1	47							
	AMB	4							
	ALR	2							
	SPLIT		52	41	54	46	54	60	
7 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
Thirtieth St 8 ↑↓↑	WLK	7							
	FDW	17							
	MIN	7						Callable by Traficam and/or pushbutton; Extendable by Traficam.	
	MAX1	24							
	AMB	3							
	ALR	2							
	SPLIT		30	30	30	30	30	30	
	CL		82	82	84	76	84	90	
	OF		37	36	65	75	57	88	
	VP		11	11	11	11	11	11	

NOTES:T-intersection - no south leg.

LOCATION:	**Lake Shore Blvd W & Twenty Seventh St**	*DISTRICT:*	**Etobicoke York**
MODE/COMMENT:	**SA2-VMG with PR**	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**766**	*CONTROLLER/CABINET TYPE:*	**Econolite ASC/3-2100 / TS2T1**
PREPARED/CHECKED BY:	***IBI* / RI / PV**	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**October 28, 2016**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing @ 1.2 m/s)**
IMPLEMENTATION DATE:	**November 28, 2016**	*CHANNEL/DROP:*	**4086/9**
		CONTROLLER FIRMWARE:	**2.47.10**

N

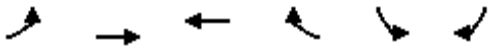
NEMA Phase		OFF All Other Times	AM 06:30-09:30 M-F	PM 15:00-19:00 M-F	NGHT 22:00-06:30 Daily	WKND 10:30-18:30 Sat-Sun	GRDN Gardiner Closure	Phase Mode (Fixed/Demanded/Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 16		
	System Plan	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 16		
1 NOT USED	WLK								Pedestrian Minimums: EWWK = 7 sec, EWFD = 9 sec NSWK = 7 sec, NSFD = 16 sec
	FDW								
	MIN								
	MAX1								NS phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NBG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the NBG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.
	AMB								
	ALR								
	SPLIT								
2 Lake Shore Blvd W 	WLK 7							Fixed	Side Street Passage Time = 3 sec
	FDW 9								
	MIN 16								
	MAX1 47								
	AMB 4								
	ALR 2								
	SPLIT	52	52	54	46	54	60		
3 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
4 Twenty Seventh St 	WLK 7							Callable by stopbar loop and/or pushbutton; Extendable by stopbar loop.	
	FDW 16								
	MIN 7								
	MAX1 23								
	AMB 3								
	ALR 3								
	SPLIT	30	30	30	30	30	30		
5 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
6 Lake Shore Blvd W 	WLK 7							Fixed	
	FDW 9								
	MIN 16								
	MAX1 47								
	AMB 4								
	ALR 2								
	SPLIT	52	52	54	46	54	60		
7 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
8 NOT USED	WLK 7								
	FDW 16								
	MIN 7								
	MAX1 23								
	AMB 3								
	ALR 3								
	SPLIT	30	30	30	30	30	30		
	CL	82	82	84	76	84	90		
	OF	8	24	33	13	14	55		
	VP	9	9	9	9	9	9		

Notes:

Appendix F SYNCHRO ANALYSIS OUTPUTS

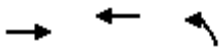
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	965	694	244
v/c Ratio	0.48	0.27	0.63
Control Delay	6.9	4.6	24.4
Queue Delay	0.0	0.0	0.0
Total Delay	6.9	4.6	24.4
Queue Length 50th (m)	25.8	14.1	20.8
Queue Length 95th (m)	60.7	28.0	30.1
Internal Link Dist (m)	91.6	378.0	164.8
Turn Bay Length (m)			
Base Capacity (vph)	2017	2535	602
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.48	0.27	0.41

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	94	810	542	85	78	108
Future Volume (vph)	94	810	542	85	78	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3585	3507		1686	
Flt Permitted		0.78	1.00		0.98	
Satd. Flow (perm)		2797	3507		1686	
Peak-hour factor, PHF	0.84	0.95	0.90	0.92	0.81	0.73
Adj. Flow (vph)	112	853	602	92	96	148
RTOR Reduction (vph)	0	0	8	0	81	0
Lane Group Flow (vph)	0	965	686	0	163	0
Heavy Vehicles (%)	3%	1%	2%	2%	2%	3%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	5	2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		57.1	57.1		13.9	
Effective Green, g (s)		59.1	59.1		14.9	
Actuated g/C Ratio		0.72	0.72		0.18	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		2015	2527		306	
v/s Ratio Prot			0.20		c0.10	
v/s Ratio Perm		c0.34				
v/c Ratio		0.48	0.27		0.53	
Uniform Delay, d1		4.9	4.0		30.4	
Progression Factor		1.00	0.93		1.00	
Incremental Delay, d2		0.2	0.3		1.8	
Delay (s)		5.1	3.9		32.2	
Level of Service		A	A		C	
Approach Delay (s)		5.1	3.9		32.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	894	556	116
v/c Ratio	0.32	0.23	0.35
Control Delay	5.0	4.1	15.3
Queue Delay	0.0	0.0	0.0
Total Delay	5.0	4.1	15.3
Queue Length 50th (m)	14.2	8.7	6.3
Queue Length 95th (m)	48.7	28.6	7.9
Internal Link Dist (m)	378.0	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2814	2462	596
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.32	0.23	0.19

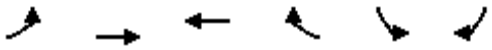
Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	838	5	14	477	27	46
Future Volume (vph)	838	5	14	477	27	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.92	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3572			3558	1727	
Flt Permitted	1.00			0.88	0.98	
Satd. Flow (perm)	3572			3126	1727	
Peak-hour factor, PHF	0.95	0.42	0.44	0.91	0.61	0.64
Adj. Flow (vph)	882	12	32	524	44	72
RTOR Reduction (vph)	1	0	0	0	62	0
Lane Group Flow (vph)	893	0	0	556	54	0
Heavy Vehicles (%)	2%	0%	7%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	60.6			60.6	9.4	
Effective Green, g (s)	62.6			62.6	11.4	
Actuated g/C Ratio	0.76			0.76	0.14	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2726			2386	240	
v/s Ratio Prot	c0.25				c0.03	
v/s Ratio Perm				0.18		
v/c Ratio	0.33			0.23	0.23	
Uniform Delay, d1	3.1			2.8	31.4	
Progression Factor	1.14			1.00	1.00	
Incremental Delay, d2	0.3			0.2	0.5	
Delay (s)	3.8			3.0	31.9	
Level of Service	A			A	C	
Approach Delay (s)	3.8			3.0	31.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

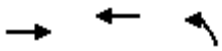
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	690	967	195
v/c Ratio	0.40	0.39	0.59
Control Delay	6.8	3.5	27.1
Queue Delay	0.0	0.0	0.0
Total Delay	6.8	3.5	27.1
Queue Length 50th (m)	18.0	27.4	19.2
Queue Length 95th (m)	44.3	9.5	32.0
Internal Link Dist (m)	91.6	378.0	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1718	2505	566
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.40	0.39	0.34

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	96	524	759	84	82	90
Future Volume (vph)	96	524	759	84	82	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3545	3510		1743	
Flt Permitted		0.68	1.00		0.98	
Satd. Flow (perm)		2414	3510		1743	
Peak-hour factor, PHF	0.89	0.90	0.88	0.81	0.89	0.87
Adj. Flow (vph)	108	582	862	104	92	103
RTOR Reduction (vph)	0	0	7	0	57	0
Lane Group Flow (vph)	0	690	960	0	138	0
Heavy Vehicles (%)	3%	2%	2%	5%	0%	0%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		59.8	59.8		13.2	
Effective Green, g (s)		59.8	59.8		13.2	
Actuated g/C Ratio		0.71	0.71		0.16	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1718	2498		273	
v/s Ratio Prot			0.27		c0.08	
v/s Ratio Perm		c0.29				
v/c Ratio		0.40	0.38		0.50	
Uniform Delay, d1		4.9	4.8		32.4	
Progression Factor		1.00	0.55		1.00	
Incremental Delay, d2		0.7	0.4		1.5	
Delay (s)		5.6	3.1		33.9	
Level of Service		A	A		C	
Approach Delay (s)		5.6	3.1		33.9	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	644	787	60
v/c Ratio	0.24	0.31	0.25
Control Delay	7.0	4.9	21.1
Queue Delay	0.0	0.0	0.0
Total Delay	7.0	4.9	21.1
Queue Length 50th (m)	26.0	15.0	4.9
Queue Length 95th (m)	52.4	45.2	9.1
Internal Link Dist (m)	378.0	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2715	2535	520
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.24	0.31	0.12

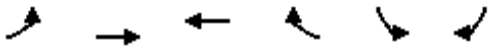
Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	593	28	27	740	23	20
Future Volume (vph)	593	28	27	740	23	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3486			3574	1753	
Flt Permitted	1.00			0.91	0.97	
Satd. Flow (perm)	3486			3259	1753	
Peak-hour factor, PHF	0.98	0.72	0.84	0.98	0.72	0.71
Adj. Flow (vph)	605	39	32	755	32	28
RTOR Reduction (vph)	3	0	0	0	25	0
Lane Group Flow (vph)	641	0	0	787	35	0
Heavy Vehicles (%)	4%	0%	0%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	63.0			63.0	9.0	
Effective Green, g (s)	63.0			63.0	9.0	
Actuated g/C Ratio	0.75			0.75	0.11	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2614			2444	187	
v/s Ratio Prot	0.18				c0.02	
v/s Ratio Perm				c0.24		
v/c Ratio	0.25			0.32	0.19	
Uniform Delay, d1	3.2			3.5	34.2	
Progression Factor	1.65			1.00	1.00	
Incremental Delay, d2	0.2			0.3	0.5	
Delay (s)	5.5			3.8	34.7	
Level of Service	A			A	C	
Approach Delay (s)	5.5			3.8	34.7	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

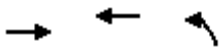
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	983	709	250
v/c Ratio	0.49	0.28	0.64
Control Delay	7.1	4.7	25.1
Queue Delay	0.0	0.0	0.0
Total Delay	7.1	4.7	25.1
Queue Length 50th (m)	27.4	14.8	21.8
Queue Length 95th (m)	62.7	28.5	31.4
Internal Link Dist (m)	91.6	378.0	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1999	2526	601
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.49	0.28	0.42

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	96	826	553	87	80	110
Future Volume (vph)	96	826	553	87	80	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3585	3507		1686	
Flt Permitted		0.77	1.00		0.98	
Satd. Flow (perm)		2782	3507		1686	
Peak-hour factor, PHF	0.84	0.95	0.90	0.92	0.81	0.73
Adj. Flow (vph)	114	869	614	95	99	151
RTOR Reduction (vph)	0	0	8	0	80	0
Lane Group Flow (vph)	0	983	701	0	170	0
Heavy Vehicles (%)	3%	1%	2%	2%	2%	3%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	5	2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		56.9	56.9		14.1	
Effective Green, g (s)		58.9	58.9		15.1	
Actuated g/C Ratio		0.72	0.72		0.18	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1998	2519		310	
v/s Ratio Prot			0.20		c0.10	
v/s Ratio Perm		c0.35				
v/c Ratio		0.49	0.28		0.55	
Uniform Delay, d1		5.0	4.1		30.4	
Progression Factor		1.00	0.92		1.00	
Incremental Delay, d2		0.2	0.3		2.0	
Delay (s)		5.2	4.0		32.3	
Level of Service		A	A		C	
Approach Delay (s)		5.2	4.0		32.3	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	912	567	119
v/c Ratio	0.32	0.23	0.36
Control Delay	5.1	4.1	15.5
Queue Delay	0.0	0.0	0.0
Total Delay	5.1	4.1	15.5
Queue Length 50th (m)	14.6	9.0	6.6
Queue Length 95th (m)	50.6	29.3	8.1
Internal Link Dist (m)	378.0	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2813	2461	597
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.32	0.23	0.20

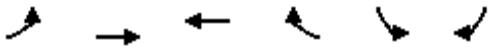
Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	855	5	14	487	28	47
Future Volume (vph)	855	5	14	487	28	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.92	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3572			3559	1729	
Flt Permitted	1.00			0.88	0.98	
Satd. Flow (perm)	3572			3125	1729	
Peak-hour factor, PHF	0.95	0.42	0.44	0.91	0.61	0.64
Adj. Flow (vph)	900	12	32	535	46	73
RTOR Reduction (vph)	1	0	0	0	63	0
Lane Group Flow (vph)	911	0	0	567	56	0
Heavy Vehicles (%)	2%	0%	7%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	60.6			60.6	9.4	
Effective Green, g (s)	62.6			62.6	11.4	
Actuated g/C Ratio	0.76			0.76	0.14	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2726			2385	240	
v/s Ratio Prot	c0.26				c0.03	
v/s Ratio Perm				0.18		
v/c Ratio	0.33			0.24	0.23	
Uniform Delay, d1	3.1			2.8	31.4	
Progression Factor	1.16			1.00	1.00	
Incremental Delay, d2	0.3			0.2	0.5	
Delay (s)	3.9			3.0	31.9	
Level of Service	A			A	C	
Approach Delay (s)	3.9			3.0	31.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

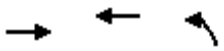
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	704	986	200
v/c Ratio	0.41	0.39	0.60
Control Delay	7.0	3.6	27.5
Queue Delay	0.0	0.0	0.0
Total Delay	7.0	3.6	27.5
Queue Length 50th (m)	18.7	28.4	19.8
Queue Length 95th (m)	45.7	9.7	32.9
Internal Link Dist (m)	91.6	378.0	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1700	2500	566
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.41	0.39	0.35

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	98	535	774	86	84	92
Future Volume (vph)	98	535	774	86	84	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3545	3510		1743	
Flt Permitted		0.67	1.00		0.98	
Satd. Flow (perm)		2394	3510		1743	
Peak-hour factor, PHF	0.89	0.90	0.88	0.81	0.89	0.87
Adj. Flow (vph)	110	594	880	106	94	106
RTOR Reduction (vph)	0	0	8	0	58	0
Lane Group Flow (vph)	0	704	978	0	142	0
Heavy Vehicles (%)	3%	2%	2%	5%	0%	0%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		59.7	59.7		13.3	
Effective Green, g (s)		59.7	59.7		13.3	
Actuated g/C Ratio		0.71	0.71		0.16	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1701	2494		275	
v/s Ratio Prot			0.28		c0.08	
v/s Ratio Perm		c0.29				
v/c Ratio		0.41	0.39		0.52	
Uniform Delay, d1		5.0	4.9		32.4	
Progression Factor		1.00	0.55		1.00	
Incremental Delay, d2		0.7	0.5		1.6	
Delay (s)		5.7	3.1		34.0	
Level of Service		A	A		C	
Approach Delay (s)		5.7	3.1		34.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	657	803	60
v/c Ratio	0.24	0.32	0.25
Control Delay	7.0	4.9	21.1
Queue Delay	0.0	0.0	0.0
Total Delay	7.0	4.9	21.1
Queue Length 50th (m)	26.6	15.4	4.9
Queue Length 95th (m)	53.6	46.3	9.1
Internal Link Dist (m)	378.0	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2715	2530	520
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.24	0.32	0.12

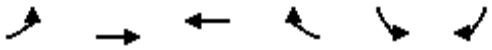
Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	605	29	28	755	23	20
Future Volume (vph)	605	29	28	755	23	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3486			3574	1753	
Flt Permitted	1.00			0.91	0.97	
Satd. Flow (perm)	3486			3252	1753	
Peak-hour factor, PHF	0.98	0.72	0.84	0.98	0.72	0.71
Adj. Flow (vph)	617	40	33	770	32	28
RTOR Reduction (vph)	3	0	0	0	25	0
Lane Group Flow (vph)	654	0	0	803	35	0
Heavy Vehicles (%)	4%	0%	0%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	63.0			63.0	9.0	
Effective Green, g (s)	63.0			63.0	9.0	
Actuated g/C Ratio	0.75			0.75	0.11	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2614			2439	187	
v/s Ratio Prot	0.19				c0.02	
v/s Ratio Perm				c0.25		
v/c Ratio	0.25			0.33	0.19	
Uniform Delay, d1	3.2			3.5	34.2	
Progression Factor	1.64			1.00	1.00	
Incremental Delay, d2	0.2			0.4	0.5	
Delay (s)	5.5			3.8	34.7	
Level of Service	A			A	C	
Approach Delay (s)	5.5			3.8	34.7	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

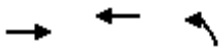
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	1034	745	263
v/c Ratio	0.53	0.30	0.66
Control Delay	7.8	4.9	26.1
Queue Delay	0.0	0.0	0.0
Total Delay	7.8	4.9	26.1
Queue Length 50th (m)	31.1	16.4	23.8
Queue Length 95th (m)	68.5	30.1	33.7
Internal Link Dist (m)	91.6	378.0	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1954	2509	601
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.53	0.30	0.44

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	101	868	581	91	84	116
Future Volume (vph)	101	868	581	91	84	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3585	3507		1686	
Flt Permitted		0.76	1.00		0.98	
Satd. Flow (perm)		2741	3507		1686	
Peak-hour factor, PHF	0.84	0.95	0.90	0.92	0.81	0.73
Adj. Flow (vph)	120	914	646	99	104	159
RTOR Reduction (vph)	0	0	8	0	79	0
Lane Group Flow (vph)	0	1034	737	0	184	0
Heavy Vehicles (%)	3%	1%	2%	2%	2%	3%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	5	2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		56.5	56.5		14.5	
Effective Green, g (s)		58.5	58.5		15.5	
Actuated g/C Ratio		0.71	0.71		0.19	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1955	2501		318	
v/s Ratio Prot			0.21		c0.11	
v/s Ratio Perm		c0.38				
v/c Ratio		0.53	0.29		0.58	
Uniform Delay, d1		5.4	4.3		30.3	
Progression Factor		1.00	0.92		1.00	
Incremental Delay, d2		0.3	0.3		2.5	
Delay (s)		5.7	4.2		32.8	
Level of Service		A	A		C	
Approach Delay (s)		5.7	4.2		32.8	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	957	596	125
v/c Ratio	0.34	0.24	0.37
Control Delay	5.4	4.2	15.5
Queue Delay	0.0	0.0	0.0
Total Delay	5.4	4.2	15.5
Queue Length 50th (m)	15.6	9.6	6.9
Queue Length 95th (m)	56.2	31.1	8.3
Internal Link Dist (m)	378.0	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2810	2436	600
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.24	0.21

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	898	5	15	511	29	49
Future Volume (vph)	898	5	15	511	29	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.92	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3573			3558	1728	
Flt Permitted	1.00			0.87	0.98	
Satd. Flow (perm)	3573			3098	1728	
Peak-hour factor, PHF	0.95	0.42	0.44	0.91	0.61	0.64
Adj. Flow (vph)	945	12	34	562	48	77
RTOR Reduction (vph)	1	0	0	0	66	0
Lane Group Flow (vph)	956	0	0	596	59	0
Heavy Vehicles (%)	2%	0%	7%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	60.5			60.5	9.5	
Effective Green, g (s)	62.5			62.5	11.5	
Actuated g/C Ratio	0.76			0.76	0.14	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2723			2361	242	
v/s Ratio Prot	c0.27				c0.03	
v/s Ratio Perm				0.19		
v/c Ratio	0.35			0.25	0.24	
Uniform Delay, d1	3.2			2.9	31.4	
Progression Factor	1.20			1.00	1.00	
Incremental Delay, d2	0.3			0.3	0.5	
Delay (s)	4.1			3.1	31.9	
Level of Service	A			A	C	
Approach Delay (s)	4.1			3.1	31.9	
Approach LOS	A			A	C	

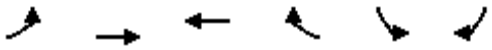
Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues
101: Lake Shore Blvd W & Thirtieth St

11/07/2019

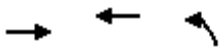
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	740	1036	209
v/c Ratio	0.45	0.42	0.61
Control Delay	7.5	3.9	28.5
Queue Delay	0.0	0.0	0.0
Total Delay	7.5	3.9	28.5
Queue Length 50th (m)	21.0	31.3	21.2
Queue Length 95th (m)	49.9	10.3	35.0
Internal Link Dist (m)	91.6	378.0	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1643	2488	566
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.45	0.42	0.37

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	103	562	814	90	88	96
Future Volume (vph)	103	562	814	90	88	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3545	3510		1743	
Flt Permitted		0.65	1.00		0.98	
Satd. Flow (perm)		2326	3510		1743	
Peak-hour factor, PHF	0.89	0.90	0.88	0.81	0.89	0.87
Adj. Flow (vph)	116	624	925	111	99	110
RTOR Reduction (vph)	0	0	8	0	57	0
Lane Group Flow (vph)	0	740	1028	0	152	0
Heavy Vehicles (%)	3%	2%	2%	5%	0%	0%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		59.4	59.4		13.6	
Effective Green, g (s)		59.4	59.4		13.6	
Actuated g/C Ratio		0.71	0.71		0.16	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1644	2482		282	
v/s Ratio Prot			0.29		c0.09	
v/s Ratio Perm		c0.32				
v/c Ratio		0.45	0.41		0.54	
Uniform Delay, d1		5.3	5.1		32.3	
Progression Factor		1.00	0.56		1.00	
Incremental Delay, d2		0.9	0.5		2.0	
Delay (s)		6.2	3.4		34.3	
Level of Service		A	A		C	
Approach Delay (s)		6.2	3.4		34.3	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	691	844	65
v/c Ratio	0.25	0.34	0.27
Control Delay	6.9	5.0	21.4
Queue Delay	0.0	0.0	0.0
Total Delay	6.9	5.0	21.4
Queue Length 50th (m)	28.4	16.6	5.4
Queue Length 95th (m)	56.6	49.4	9.6
Internal Link Dist (m)	378.0	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2712	2517	522
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.25	0.34	0.12

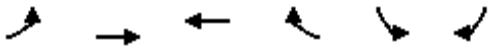
Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	636	30	29	793	25	21
Future Volume (vph)	636	30	29	793	25	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3486			3574	1754	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	3486			3236	1754	
Peak-hour factor, PHF	0.98	0.72	0.84	0.98	0.72	0.71
Adj. Flow (vph)	649	42	35	809	35	30
RTOR Reduction (vph)	3	0	0	0	27	0
Lane Group Flow (vph)	688	0	0	844	38	0
Heavy Vehicles (%)	4%	0%	0%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	62.9			62.9	9.1	
Effective Green, g (s)	62.9			62.9	9.1	
Actuated g/C Ratio	0.75			0.75	0.11	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2610			2423	190	
v/s Ratio Prot	0.20				c0.02	
v/s Ratio Perm				c0.26		
v/c Ratio	0.26			0.35	0.20	
Uniform Delay, d1	3.3			3.6	34.1	
Progression Factor	1.59			1.00	1.00	
Incremental Delay, d2	0.2			0.4	0.5	
Delay (s)	5.5			4.0	34.7	
Level of Service	A			A	C	
Approach Delay (s)	5.5			4.0	34.7	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

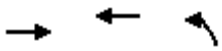
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	986	718	251
v/c Ratio	0.49	0.28	0.64
Control Delay	7.2	4.7	25.3
Queue Delay	0.0	0.0	0.0
Total Delay	7.2	4.7	25.3
Queue Length 50th (m)	27.7	15.1	22.1
Queue Length 95th (m)	63.0	29.2	31.7
Internal Link Dist (m)	91.6	262.8	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1992	2524	600
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.49	0.28	0.42

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	96	828	559	89	81	110
Future Volume (vph)	96	828	559	89	81	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3585	3506		1687	
Flt Permitted		0.77	1.00		0.98	
Satd. Flow (perm)		2776	3506		1687	
Peak-hour factor, PHF	0.84	0.95	0.90	0.92	0.81	0.73
Adj. Flow (vph)	114	872	621	97	100	151
RTOR Reduction (vph)	0	0	8	0	79	0
Lane Group Flow (vph)	0	986	710	0	172	0
Heavy Vehicles (%)	3%	1%	2%	2%	2%	3%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	5	2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		56.8	56.8		14.2	
Effective Green, g (s)		58.8	58.8		15.2	
Actuated g/C Ratio		0.72	0.72		0.19	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1990	2514		312	
v/s Ratio Prot			0.20		c0.10	
v/s Ratio Perm		c0.36				
v/c Ratio		0.50	0.28		0.55	
Uniform Delay, d1		5.1	4.1		30.3	
Progression Factor		1.00	0.93		1.00	
Incremental Delay, d2		0.2	0.3		2.1	
Delay (s)		5.3	4.1		32.4	
Level of Service		A	A		C	
Approach Delay (s)		5.3	4.1		32.4	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	922	568	119
v/c Ratio	0.33	0.23	0.36
Control Delay	5.1	4.1	15.5
Queue Delay	0.0	0.0	0.0
Total Delay	5.1	4.1	15.5
Queue Length 50th (m)	14.8	9.0	6.6
Queue Length 95th (m)	51.3	29.3	8.1
Internal Link Dist (m)	91.3	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2813	2458	597
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.23	0.20

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	863	6	14	488	28	47
Future Volume (vph)	863	6	14	488	28	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.92	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3571			3559	1729	
Flt Permitted	1.00			0.87	0.98	
Satd. Flow (perm)	3571			3122	1729	
Peak-hour factor, PHF	0.95	0.42	0.44	0.91	0.61	0.64
Adj. Flow (vph)	908	14	32	536	46	73
RTOR Reduction (vph)	1	0	0	0	63	0
Lane Group Flow (vph)	921	0	0	568	56	0
Heavy Vehicles (%)	2%	0%	7%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	60.6			60.6	9.4	
Effective Green, g (s)	62.6			62.6	11.4	
Actuated g/C Ratio	0.76			0.76	0.14	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2726			2383	240	
v/s Ratio Prot	c0.26				c0.03	
v/s Ratio Perm				0.18		
v/c Ratio	0.34			0.24	0.23	
Uniform Delay, d1	3.1			2.8	31.4	
Progression Factor	1.15			1.00	1.00	
Incremental Delay, d2	0.3			0.2	0.5	
Delay (s)	3.9			3.0	31.9	
Level of Service	A			A	C	
Approach Delay (s)	3.9			3.0	31.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

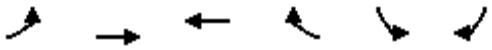
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	906	3	1	514	8	9
Future Volume (Veh/h)	906	3	1	514	8	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	985	3	1	559	9	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	287			115		
pX, platoon unblocked			0.94		0.95	0.94
vC, conflicting volume			988		1268	494
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			865		1083	341
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	98
cM capacity (veh/h)			729		202	617

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	657	331	187	373	19
Volume Left	0	0	1	0	9
Volume Right	0	3	0	0	10
cSH	1700	1700	729	1700	312
Volume to Capacity	0.39	0.19	0.00	0.22	0.06
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.5
Control Delay (s)	0.0	0.0	0.1	0.0	17.3
Lane LOS			A		C
Approach Delay (s)	0.0		0.0		17.3
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		

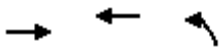
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	711	992	203
v/c Ratio	0.42	0.40	0.61
Control Delay	7.1	3.7	28.2
Queue Delay	0.0	0.0	0.0
Total Delay	7.1	3.7	28.2
Queue Length 50th (m)	19.2	29.1	20.5
Queue Length 95th (m)	46.4	9.9	33.8
Internal Link Dist (m)	91.6	262.8	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1697	2495	566
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.42	0.40	0.36

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	98	541	779	87	86	92
Future Volume (vph)	98	541	779	87	86	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3546	3510		1744	
Flt Permitted		0.67	1.00		0.98	
Satd. Flow (perm)		2394	3510		1744	
Peak-hour factor, PHF	0.89	0.90	0.88	0.81	0.89	0.87
Adj. Flow (vph)	110	601	885	107	97	106
RTOR Reduction (vph)	0	0	8	0	56	0
Lane Group Flow (vph)	0	711	984	0	147	0
Heavy Vehicles (%)	3%	2%	2%	5%	0%	0%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		59.5	59.5		13.5	
Effective Green, g (s)		59.5	59.5		13.5	
Actuated g/C Ratio		0.71	0.71		0.16	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1695	2486		280	
v/s Ratio Prot			0.28		c0.08	
v/s Ratio Perm		c0.30				
v/c Ratio		0.42	0.40		0.52	
Uniform Delay, d1		5.1	5.0		32.3	
Progression Factor		1.00	0.56		1.00	
Incremental Delay, d2		0.8	0.5		1.8	
Delay (s)		5.8	3.2		34.1	
Level of Service		A	A		C	
Approach Delay (s)		5.8	3.2		34.1	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	661	812	60
v/c Ratio	0.24	0.32	0.25
Control Delay	7.0	4.9	21.1
Queue Delay	0.0	0.0	0.0
Total Delay	7.0	4.9	21.1
Queue Length 50th (m)	26.7	15.6	4.9
Queue Length 95th (m)	53.7	47.0	9.1
Internal Link Dist (m)	91.3	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2715	2530	520
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.24	0.32	0.12

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	609	29	28	763	23	20
Future Volume (vph)	609	29	28	763	23	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3486			3574	1753	
Flt Permitted	1.00			0.91	0.97	
Satd. Flow (perm)	3486			3252	1753	
Peak-hour factor, PHF	0.98	0.72	0.84	0.98	0.72	0.71
Adj. Flow (vph)	621	40	33	779	32	28
RTOR Reduction (vph)	3	0	0	0	25	0
Lane Group Flow (vph)	658	0	0	812	35	0
Heavy Vehicles (%)	4%	0%	0%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	63.0			63.0	9.0	
Effective Green, g (s)	63.0			63.0	9.0	
Actuated g/C Ratio	0.75			0.75	0.11	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2614			2439	187	
v/s Ratio Prot	0.19				c0.02	
v/s Ratio Perm				c0.25		
v/c Ratio	0.25			0.33	0.19	
Uniform Delay, d1	3.2			3.5	34.2	
Progression Factor	1.63			1.00	1.00	
Incremental Delay, d2	0.2			0.4	0.5	
Delay (s)	5.5			3.9	34.7	
Level of Service	A			A	C	
Approach Delay (s)	5.5			3.9	34.7	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

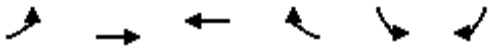
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	618	8	8	778	6	4
Future Volume (Veh/h)	618	8	8	778	6	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	672	9	9	846	7	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	287			115		
pX, platoon unblocked					0.93	
vC, conflicting volume			681		1118	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			681		985	340
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	99
cM capacity (veh/h)			907		227	655

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	448	233	291	564	11
Volume Left	0	0	9	0	7
Volume Right	0	9	0	0	4
cSH	1700	1700	907	1700	298
Volume to Capacity	0.26	0.14	0.01	0.33	0.04
Queue Length 95th (m)	0.0	0.0	0.2	0.0	0.9
Control Delay (s)	0.0	0.0	0.4	0.0	17.6
Lane LOS			A		C
Approach Delay (s)	0.0		0.1		17.6
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

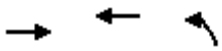
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	1036	753	264
v/c Ratio	0.53	0.30	0.66
Control Delay	7.8	4.9	26.3
Queue Delay	0.0	0.0	0.0
Total Delay	7.8	4.9	26.3
Queue Length 50th (m)	31.3	16.7	24.1
Queue Length 95th (m)	68.8	30.8	34.0
Internal Link Dist (m)	91.6	262.8	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1951	2508	601
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.53	0.30	0.44

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	101	870	587	93	85	116
Future Volume (vph)	101	870	587	93	85	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3585	3507		1687	
Flt Permitted		0.76	1.00		0.98	
Satd. Flow (perm)		2735	3507		1687	
Peak-hour factor, PHF	0.84	0.95	0.90	0.92	0.81	0.73
Adj. Flow (vph)	120	916	652	101	105	159
RTOR Reduction (vph)	0	0	8	0	79	0
Lane Group Flow (vph)	0	1036	745	0	185	0
Heavy Vehicles (%)	3%	1%	2%	2%	2%	3%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	5	2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		56.5	56.5		14.5	
Effective Green, g (s)		58.5	58.5		15.5	
Actuated g/C Ratio		0.71	0.71		0.19	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1951	2501		318	
v/s Ratio Prot			0.21		c0.11	
v/s Ratio Perm		c0.38				
v/c Ratio		0.53	0.30		0.58	
Uniform Delay, d1		5.4	4.3		30.3	
Progression Factor		1.00	0.92		1.00	
Incremental Delay, d2		0.3	0.3		2.7	
Delay (s)		5.7	4.2		33.0	
Level of Service		A	A		C	
Approach Delay (s)		5.7	4.2		33.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	968	597	125
v/c Ratio	0.34	0.25	0.37
Control Delay	5.4	4.2	15.5
Queue Delay	0.0	0.0	0.0
Total Delay	5.4	4.2	15.5
Queue Length 50th (m)	15.9	9.7	6.9
Queue Length 95th (m)	56.7	31.1	8.3
Internal Link Dist (m)	91.3	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2810	2433	600
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.25	0.21

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	906	6	15	512	29	49
Future Volume (vph)	906	6	15	512	29	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.92	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3572			3558	1728	
Flt Permitted	1.00			0.87	0.98	
Satd. Flow (perm)	3572			3095	1728	
Peak-hour factor, PHF	0.95	0.42	0.44	0.91	0.61	0.64
Adj. Flow (vph)	954	14	34	563	48	77
RTOR Reduction (vph)	1	0	0	0	66	0
Lane Group Flow (vph)	967	0	0	597	59	0
Heavy Vehicles (%)	2%	0%	7%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	60.5			60.5	9.5	
Effective Green, g (s)	62.5			62.5	11.5	
Actuated g/C Ratio	0.76			0.76	0.14	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2722			2358	242	
v/s Ratio Prot	c0.27				c0.03	
v/s Ratio Perm				0.19		
v/c Ratio	0.36			0.25	0.24	
Uniform Delay, d1	3.2			2.9	31.4	
Progression Factor	1.19			1.00	1.00	
Incremental Delay, d2	0.3			0.3	0.5	
Delay (s)	4.1			3.1	31.9	
Level of Service	A			A	C	
Approach Delay (s)	4.1			3.1	31.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

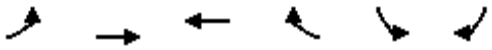
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	952	3	1	540	8	9
Future Volume (Veh/h)	952	3	1	540	8	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1035	3	1	587	9	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	287			115		
pX, platoon unblocked			0.93		0.94	0.93
vC, conflicting volume			1038		1332	519
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			887		1106	328
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	98
cM capacity (veh/h)			705		192	620

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	690	348	197	391	19
Volume Left	0	0	1	0	9
Volume Right	0	3	0	0	10
cSH	1700	1700	705	1700	302
Volume to Capacity	0.41	0.20	0.00	0.23	0.06
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.5
Control Delay (s)	0.0	0.0	0.1	0.0	17.7
Lane LOS			A		C
Approach Delay (s)	0.0		0.0		17.7
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		

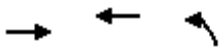
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	747	1043	211
v/c Ratio	0.46	0.42	0.62
Control Delay	7.6	4.0	29.0
Queue Delay	0.0	0.0	0.0
Total Delay	7.6	4.0	29.0
Queue Length 50th (m)	21.5	32.2	21.8
Queue Length 95th (m)	50.6	10.5	35.6
Internal Link Dist (m)	91.6	262.8	164.8
Turn Bay Length (m)			
Base Capacity (vph)	1638	2483	566
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.46	0.42	0.37

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	103	568	819	91	90	96
Future Volume (vph)	103	568	819	91	90	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		3546	3510		1744	
Flt Permitted		0.65	1.00		0.98	
Satd. Flow (perm)		2322	3510		1744	
Peak-hour factor, PHF	0.89	0.90	0.88	0.81	0.89	0.87
Adj. Flow (vph)	116	631	931	112	101	110
RTOR Reduction (vph)	0	0	8	0	55	0
Lane Group Flow (vph)	0	747	1035	0	156	0
Heavy Vehicles (%)	3%	2%	2%	5%	0%	0%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	6		8	
Permitted Phases	2					
Actuated Green, G (s)		59.3	59.3		13.7	
Effective Green, g (s)		59.3	59.3		13.7	
Actuated g/C Ratio		0.71	0.71		0.16	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1639	2477		284	
v/s Ratio Prot			0.29		c0.09	
v/s Ratio Perm		c0.32				
v/c Ratio		0.46	0.42		0.55	
Uniform Delay, d1		5.4	5.2		32.3	
Progression Factor		1.00	0.57		1.00	
Incremental Delay, d2		0.9	0.5		2.2	
Delay (s)		6.3	3.5		34.5	
Level of Service		A	A		C	
Approach Delay (s)		6.3	3.5		34.5	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	695	852	65
v/c Ratio	0.26	0.34	0.27
Control Delay	6.9	5.1	21.4
Queue Delay	0.0	0.0	0.0
Total Delay	6.9	5.1	21.4
Queue Length 50th (m)	28.4	16.8	5.4
Queue Length 95th (m)	56.7	50.0	9.6
Internal Link Dist (m)	91.3	110.8	230.2
Turn Bay Length (m)			
Base Capacity (vph)	2712	2517	522
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.26	0.34	0.12

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	640	30	29	801	25	21
Future Volume (vph)	640	30	29	801	25	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3486			3574	1754	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	3486			3236	1754	
Peak-hour factor, PHF	0.98	0.72	0.84	0.98	0.72	0.71
Adj. Flow (vph)	653	42	35	817	35	30
RTOR Reduction (vph)	3	0	0	0	27	0
Lane Group Flow (vph)	692	0	0	852	38	0
Heavy Vehicles (%)	4%	0%	0%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	62.9			62.9	9.1	
Effective Green, g (s)	62.9			62.9	9.1	
Actuated g/C Ratio	0.75			0.75	0.11	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2610			2423	190	
v/s Ratio Prot	0.20				c0.02	
v/s Ratio Perm				c0.26		
v/c Ratio	0.27			0.35	0.20	
Uniform Delay, d1	3.3			3.6	34.1	
Progression Factor	1.58			1.00	1.00	
Incremental Delay, d2	0.2			0.4	0.5	
Delay (s)	5.5			4.0	34.7	
Level of Service	A			A	C	
Approach Delay (s)	5.5			4.0	34.7	
Approach LOS	A			A	C	

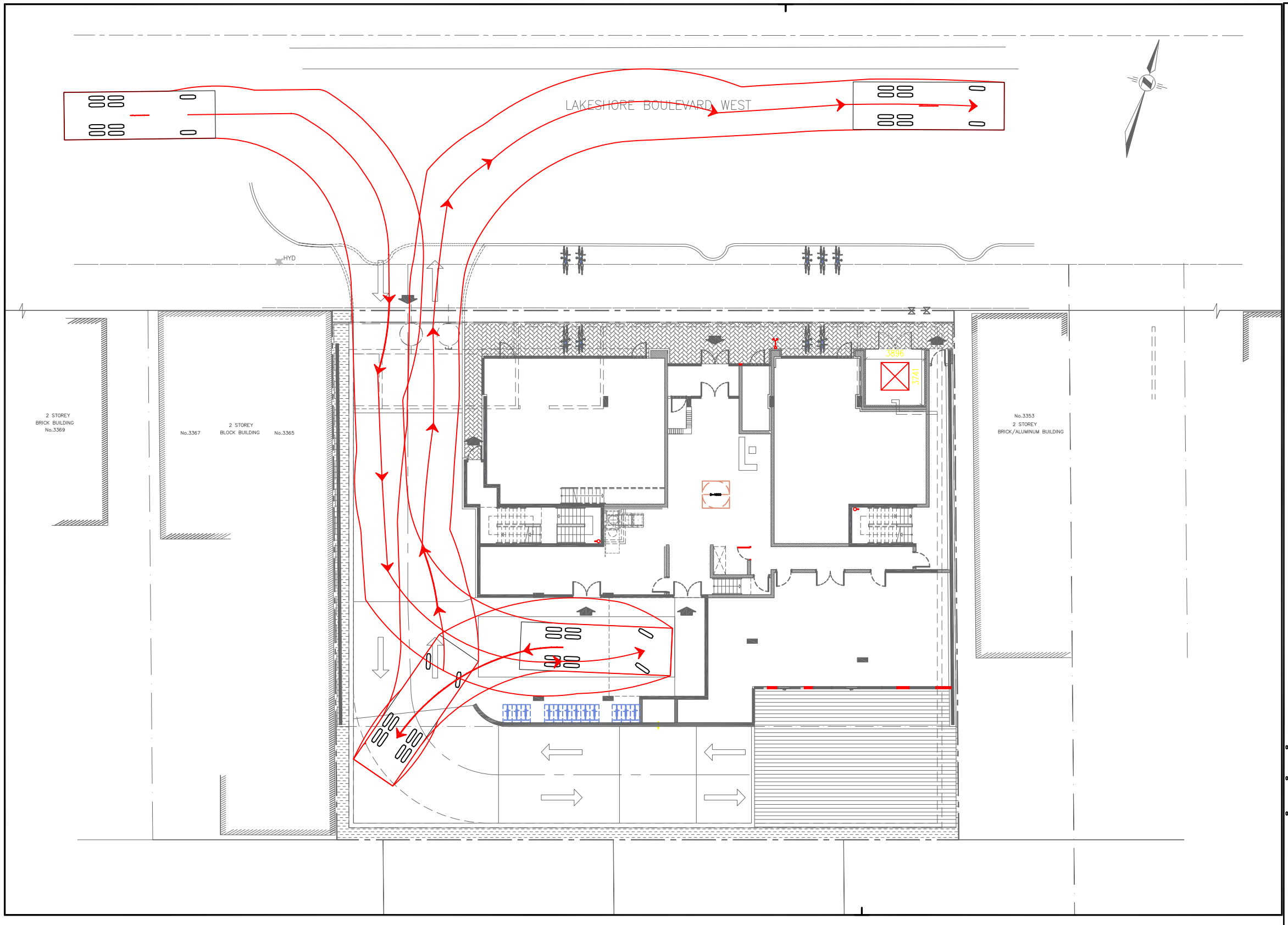
Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

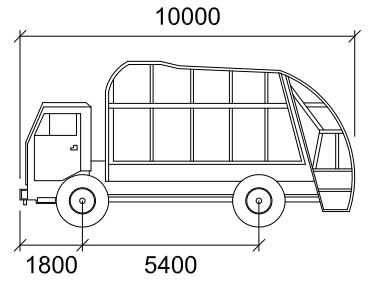
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	650	8	8	818	6	4
Future Volume (Veh/h)	650	8	8	818	6	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	707	9	9	889	7	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	287			115		
pX, platoon unblocked					0.93	
vC, conflicting volume			716		1174	358
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			716		1032	358
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	99
cM capacity (veh/h)			880		210	638

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	471	245	305	593	11
Volume Left	0	0	9	0	7
Volume Right	0	9	0	0	4
cSH	1700	1700	880	1700	278
Volume to Capacity	0.28	0.14	0.01	0.35	0.04
Queue Length 95th (m)	0.0	0.0	0.2	0.0	0.9
Control Delay (s)	0.0	0.0	0.4	0.0	18.5
Lane LOS			A		C
Approach Delay (s)	0.0		0.1		18.5
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

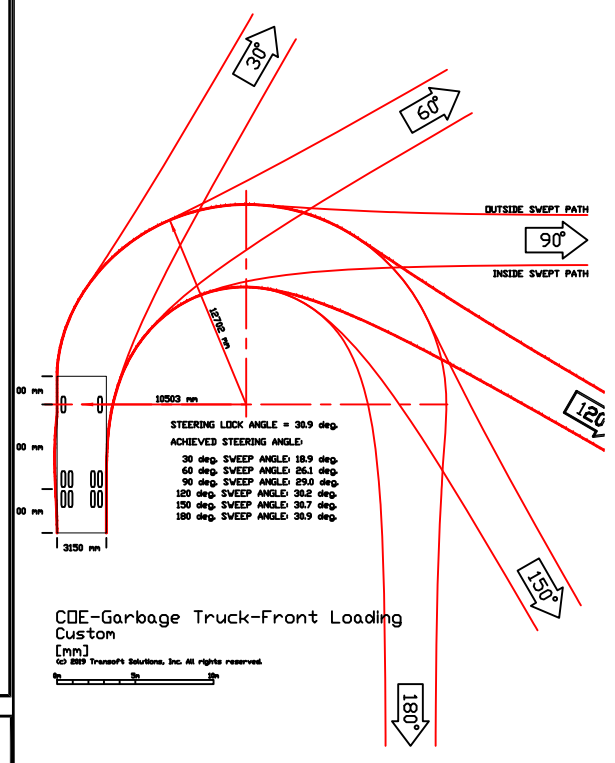
Appendix G SITE CIRCULATION ASSESSMENT OUTPUTS





COE-Garbage Truck-Front Loading

	mm
Width	: 3150
Track	: 2600
Lock to Lock Time	: 6.0
Steering Angle	: 30.9

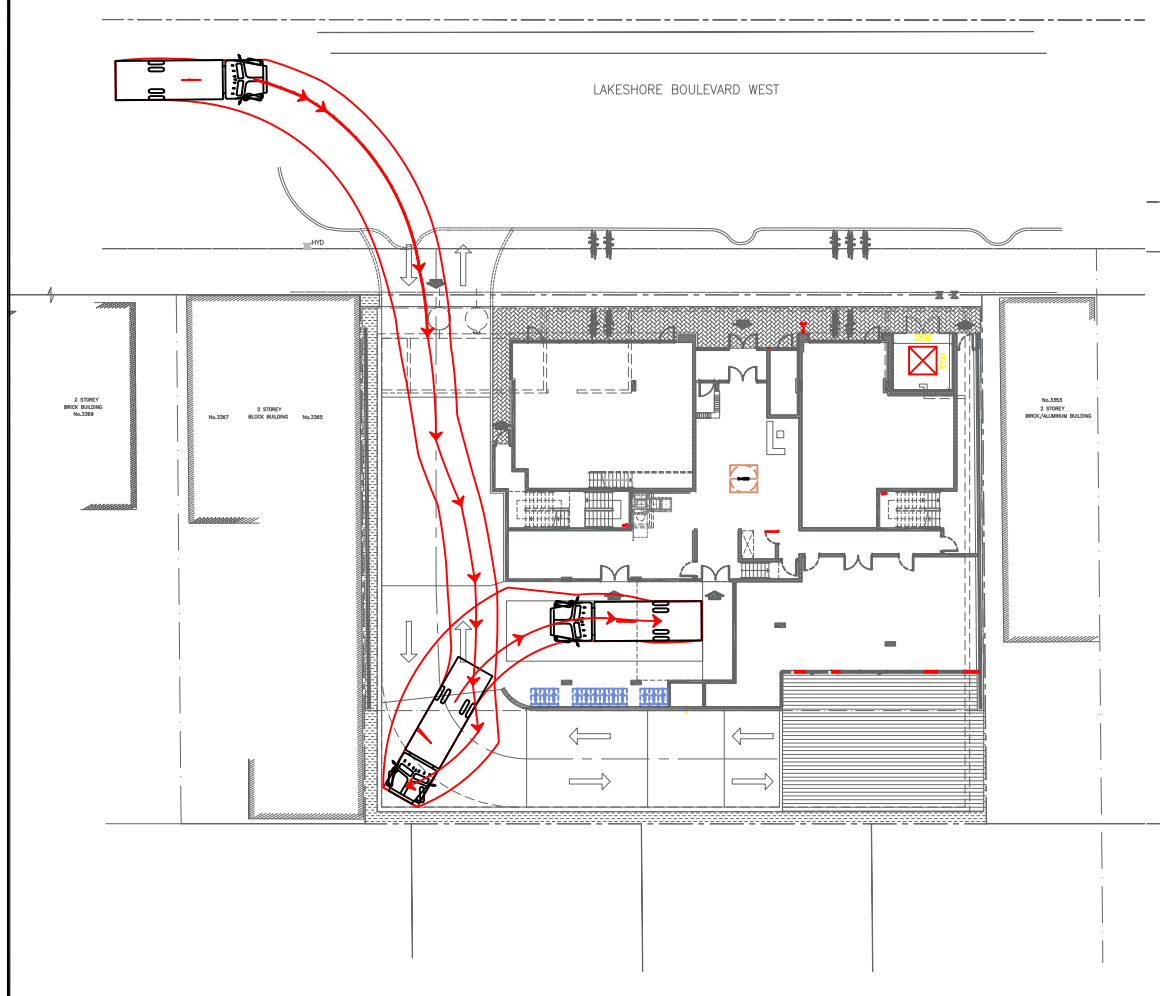


CONTROL TRUE

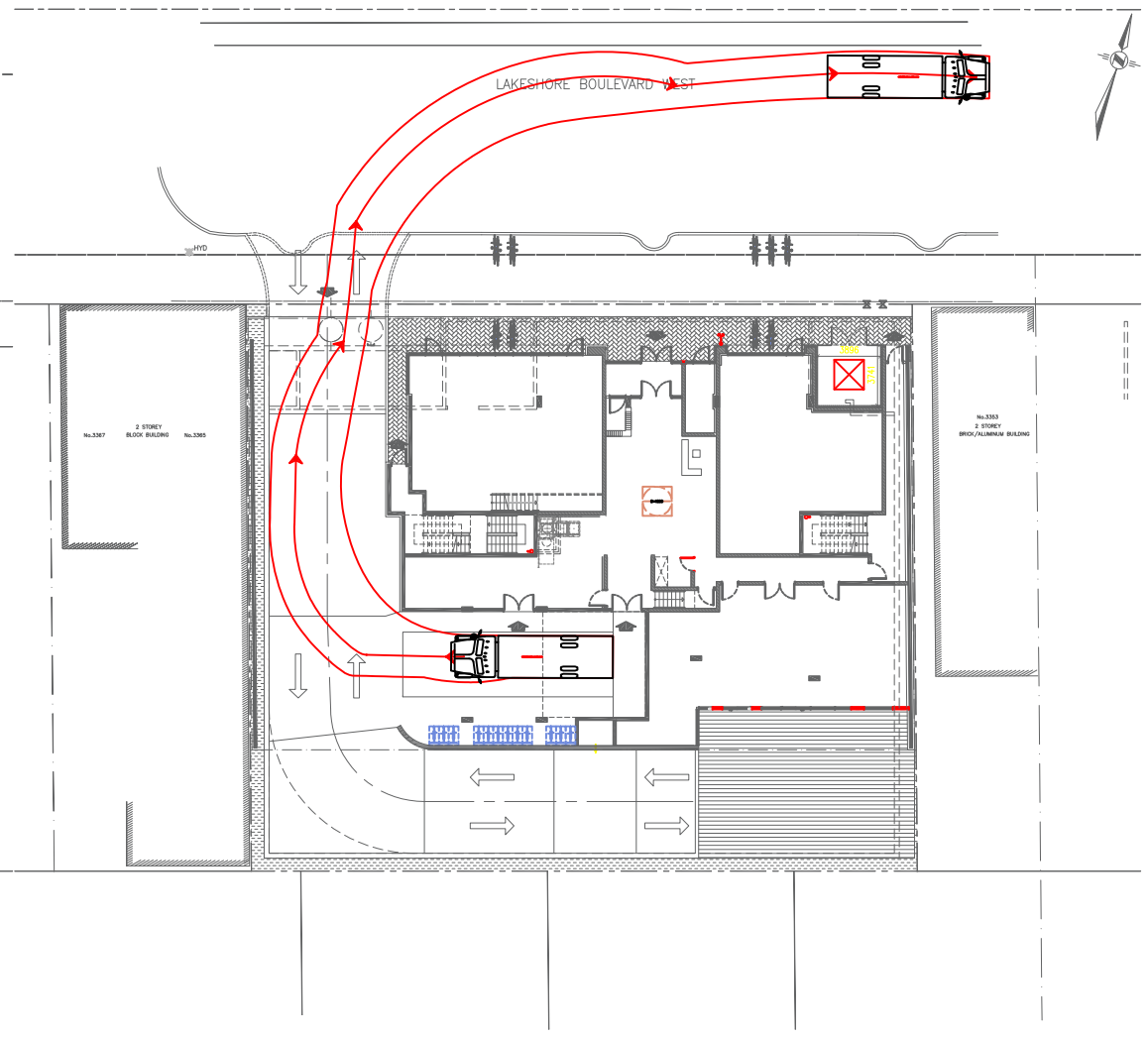
6 STOREY RESIDENTIAL BUILDING
3353-3359 LAKESHORE BLVD. WEST

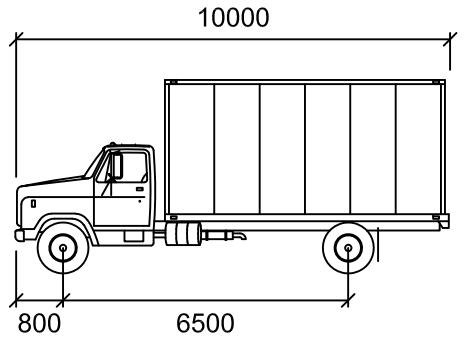
Garbage Truck
Swept path Analysis

Inbound



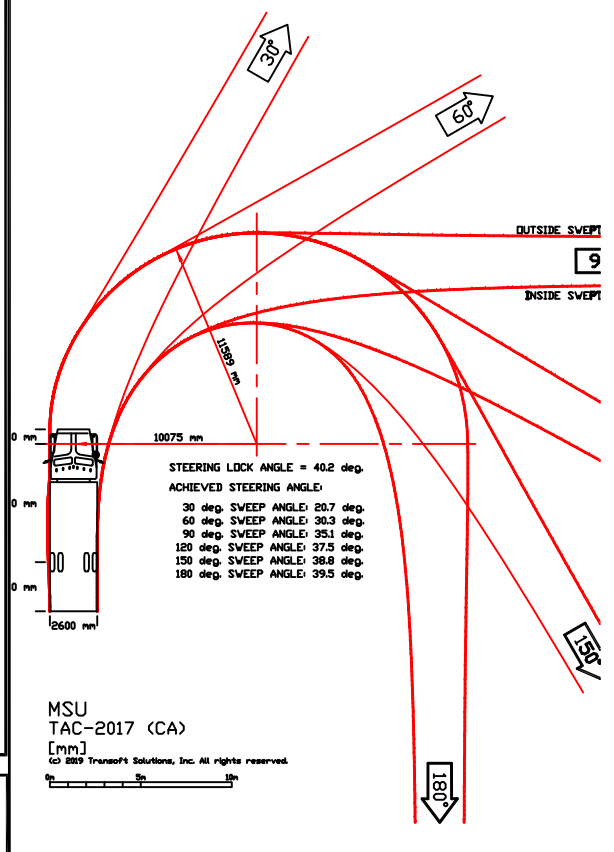
Outbound





MSU

	mm
Width	: 2600
Track	: 2600
Lock to Lock Time	: 6.0
Steering Angle	: 40.2

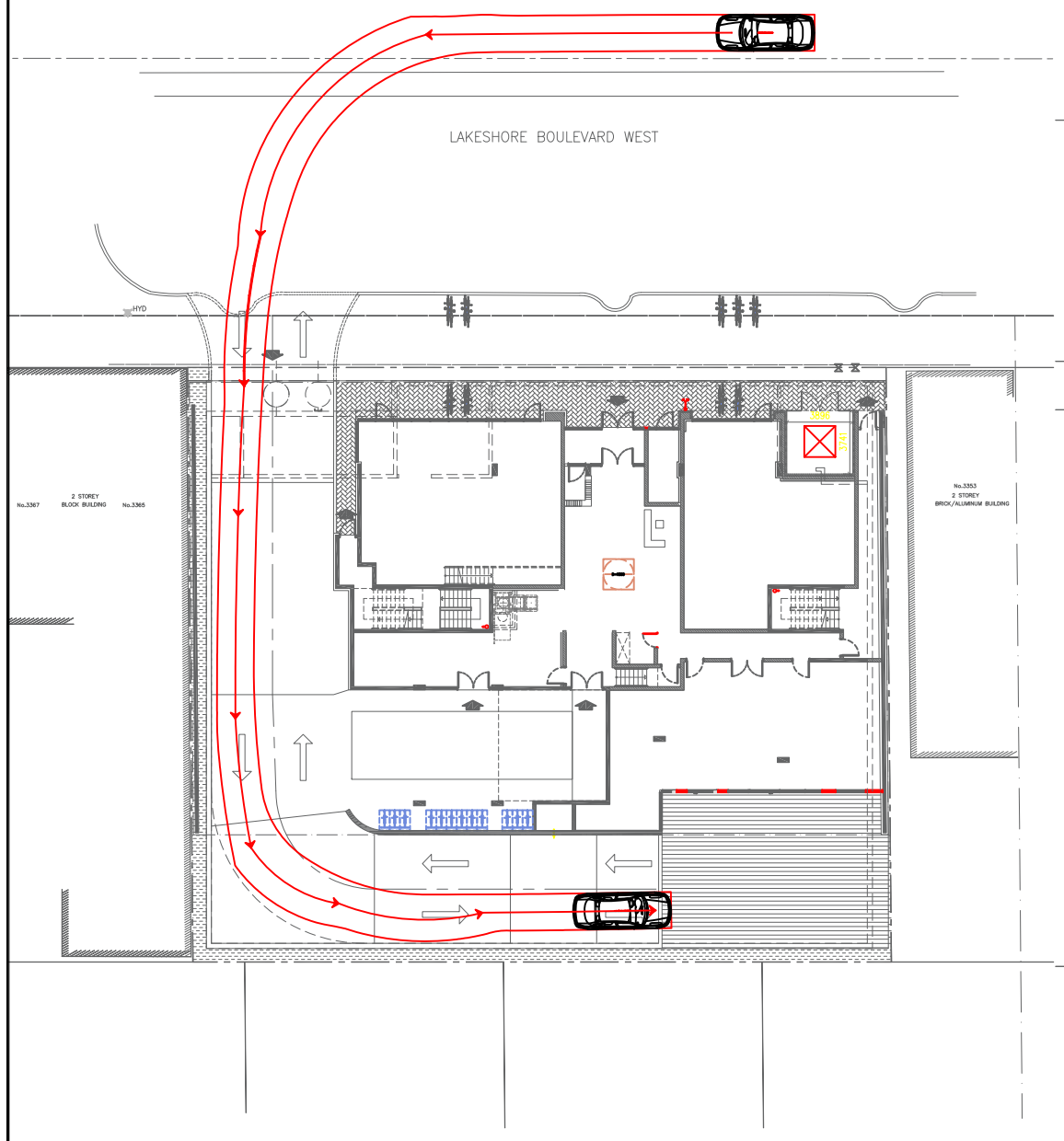


CONSULTANT

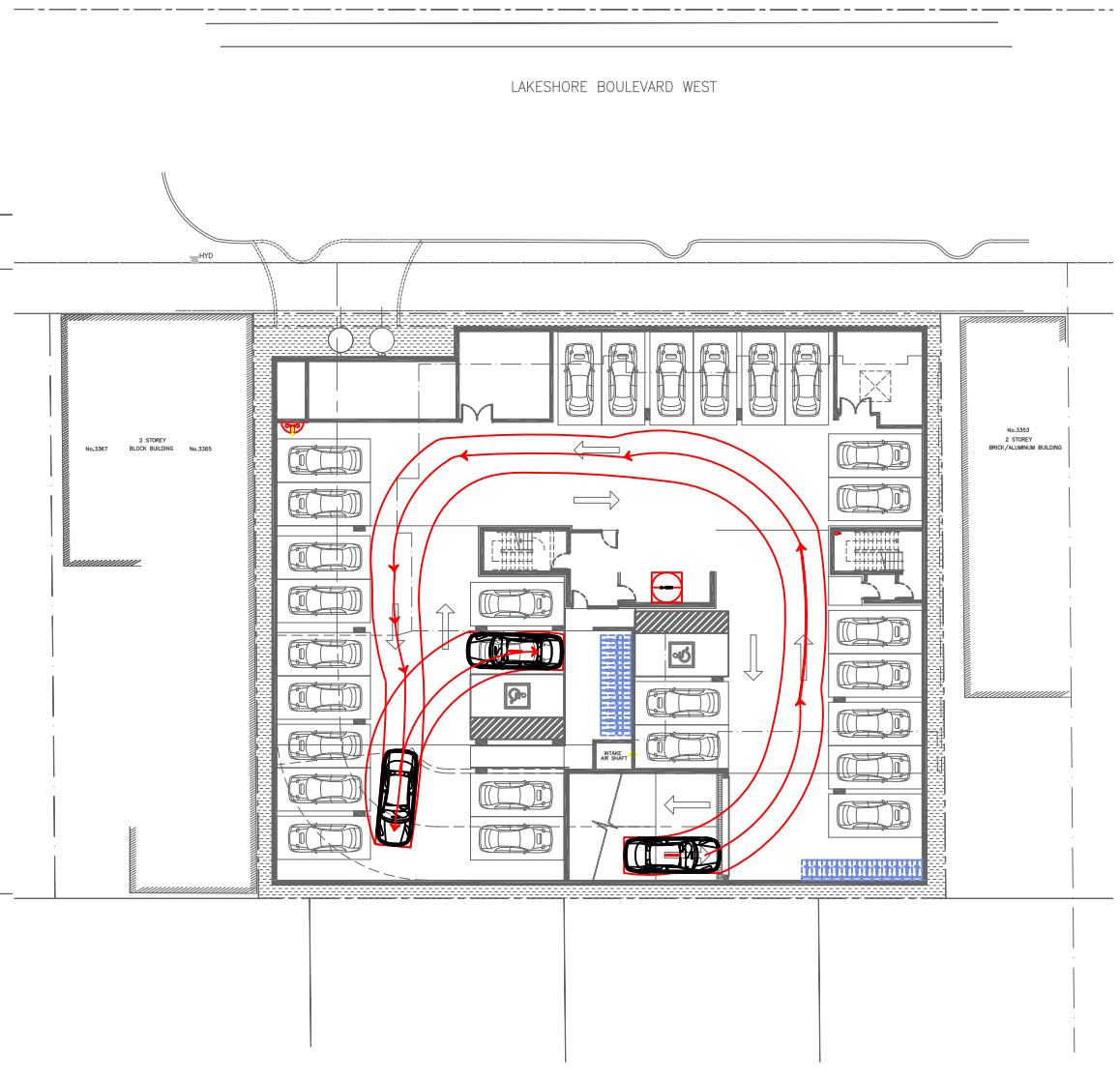
6 STOREY RESIDENTIAL BUILDING
3353-3359 LAKESHORE BLVD. WEST

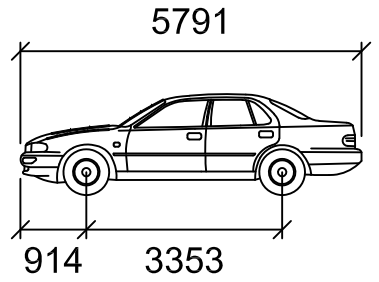
Medium Single unit Truck Swept path Analysis

1st Floor



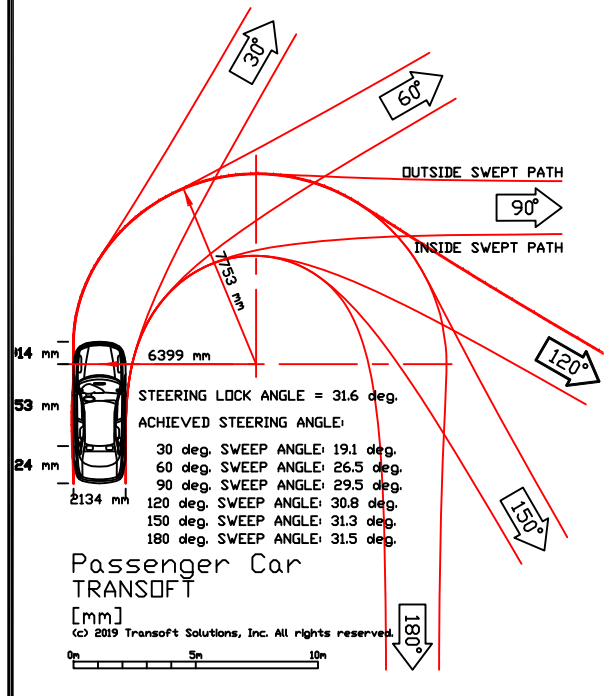
UG1





Passenger Car

	mm
Width	: 2134
Track	: 1829
Lock to Lock Time	: 6.0
Steering Angle	: 31.6

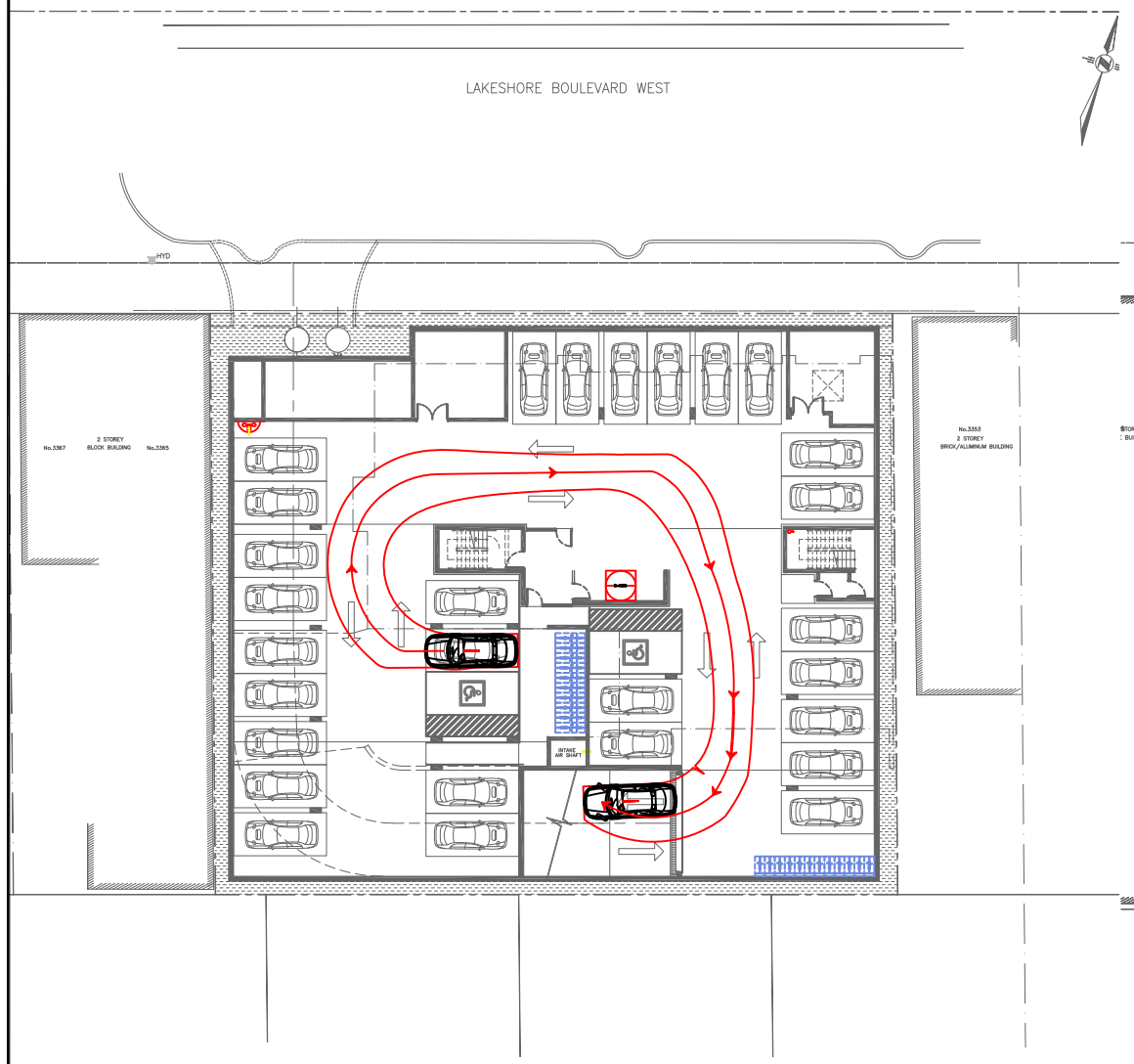


CONSULTANTS

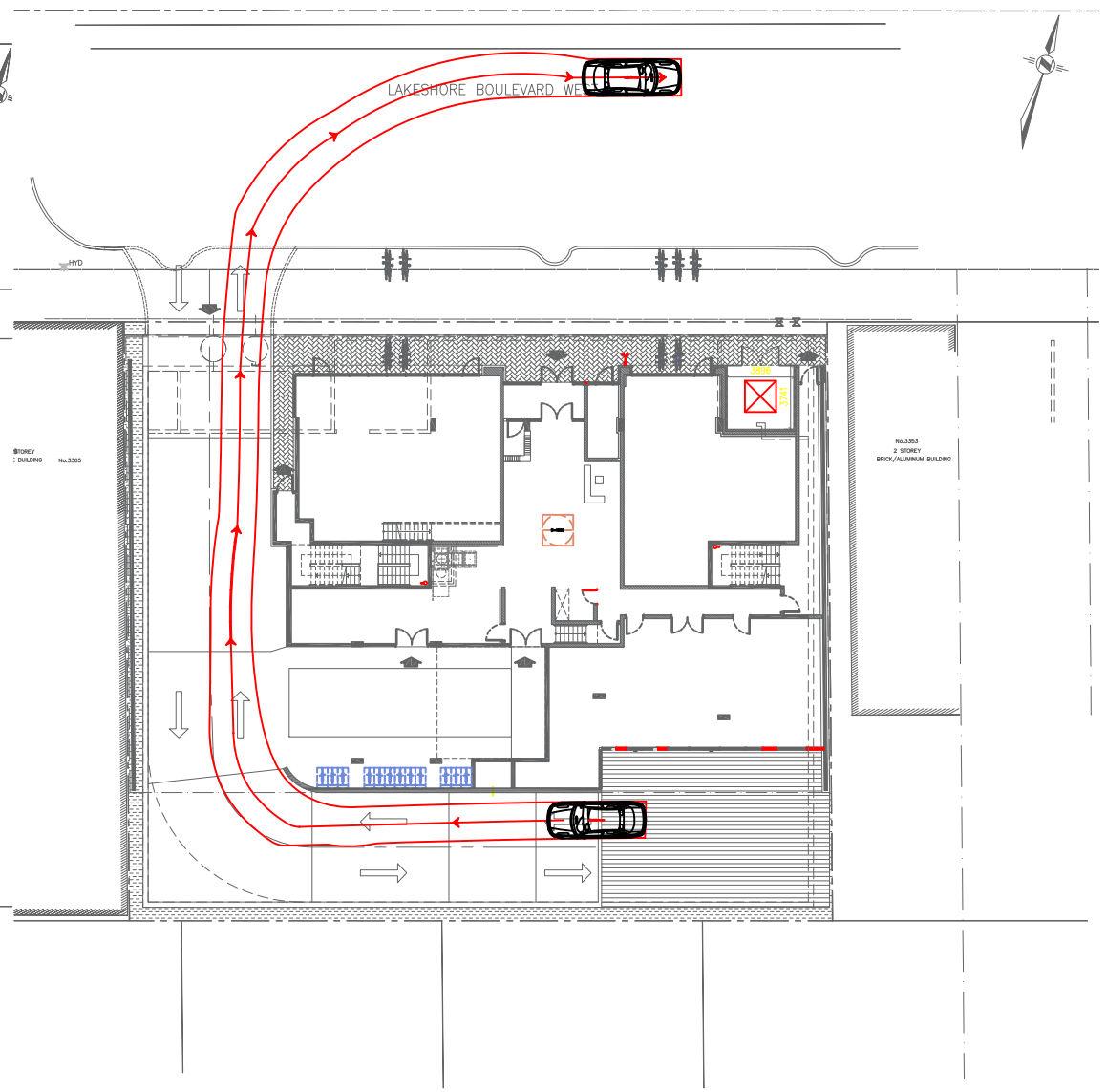
6 STOREY RESIDENTIAL BUILDING
3353-3359 LAKESHORE BLVD. WEST

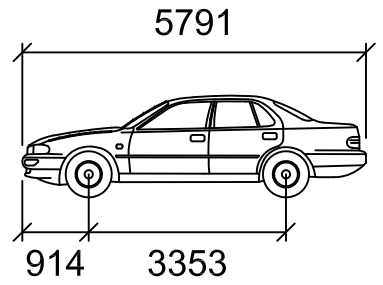
Passenger car(Inbound) Swept path Analysis

UG1



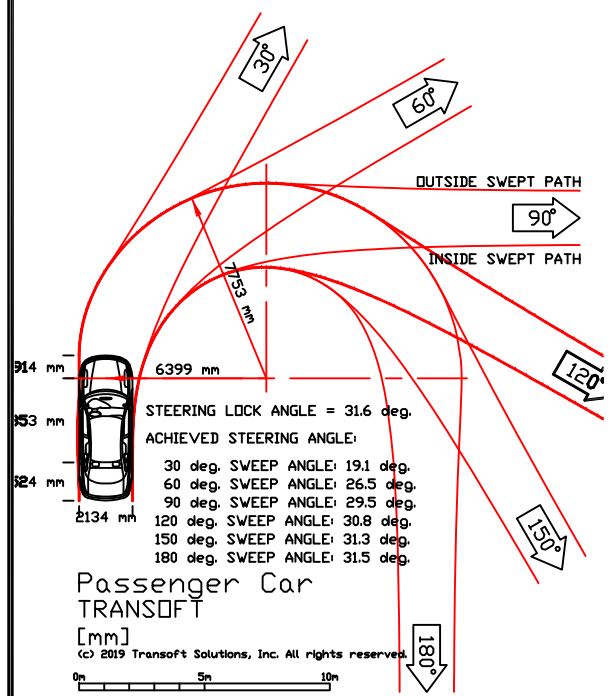
1st Floor





Passenger Car

		mm
Width	:	2134
Track	:	1829
Lock to Lock Time	:	6.0
Steering Angle	:	31.6



ONE TRUE

6 STOREY RESIDENTIAL BUILDING
3353-3359 LAKESHORE BLVD. WEST

Passenger car(outbound)
Swept path Analysis